TEXTILE BULLETIN

Vol. 58 April 1, 1940 No. 3

SOCIAL SERVICE [illegible] 40
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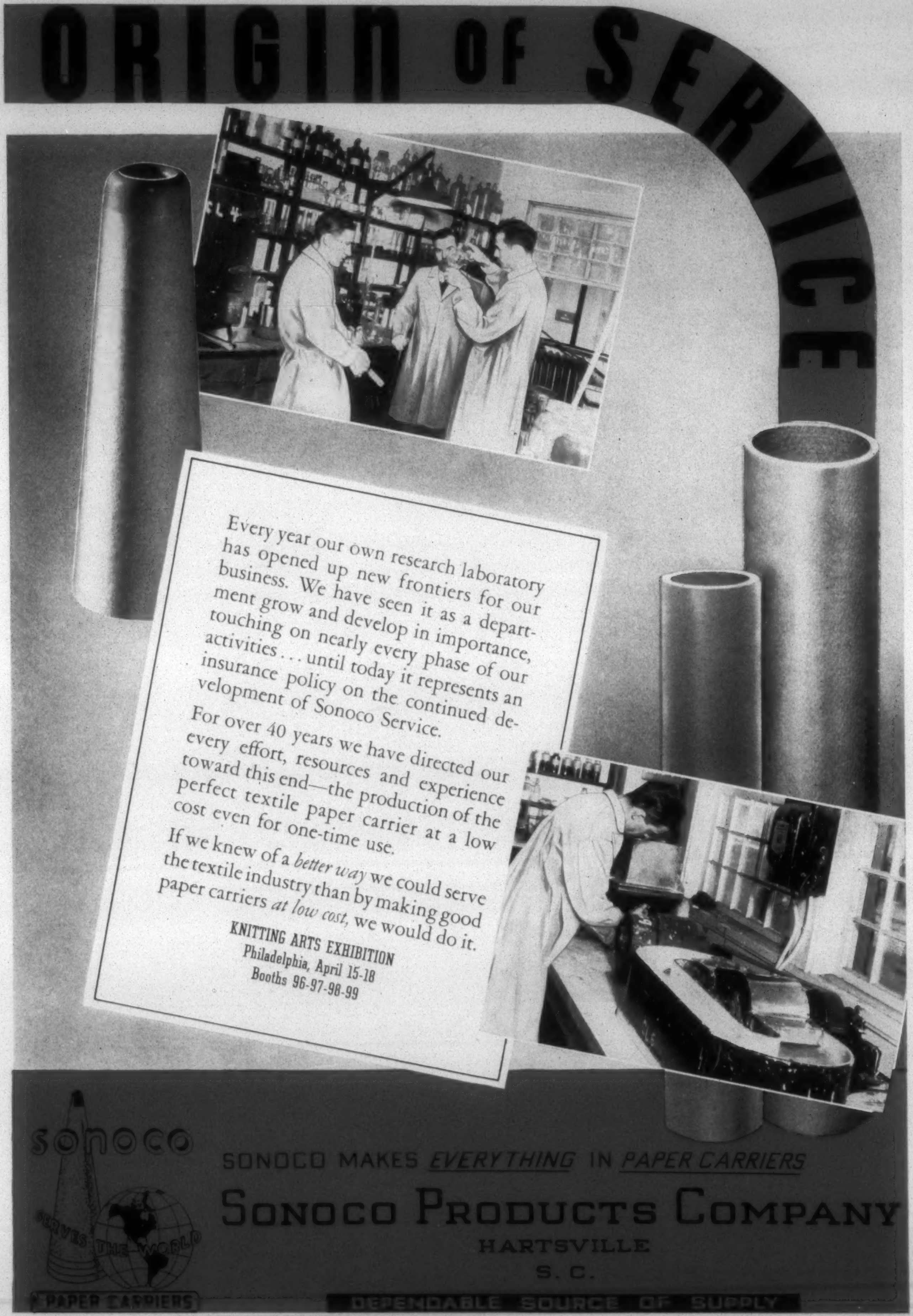
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ORIGIN OF SERVICE

Every year our own research laboratory has opened up new frontiers for our business. We have seen it as a department grow and develop in importance, touching on nearly every phase of our activities . . . until today it represents an insurance policy on the continued development of Sonoco Service.

For over 40 years we have directed our every effort, resources and experience toward this end—the production of the perfect textile paper carrier at a low cost even for one-time use.

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SONOCO PRODUCTS COMPANY
HARTSVILLE
S. C.

DEPENDABLE SOURCE OF SUPPLY

Published Semi-Monthly by Clark Publishing Company, 218 West Morehead Street, Charlotte, N. C. Subscription $1.50 per year in advance. Entered as second-class mail matter March 2, 1911, at Postoffice, Charlotte, N. C., under Act of Congress, March 2, 1897.

Mills Are Buying X Family High Speed Looms For Rayon

These Mills have bought XD Model Rayon Looms:

- Ashland Corporation
- Bloomsburg Silk Mills
- Burlington Mills Corp.
  - Blue Ridge Rayon Div.
  - Cascade Rayon Div.
  - Central Falls Div.
  - Mid-State Cloth Mills
- Carter Fabrics Inc.
- Drayton Mills
- Dunean Mills
- Greenhalgh Mills
- Hathaway Mfg. Co.
- Hess Goldsmith Co.
- Frank Ix & Sons Co.
- Judson Mills
- Keystone Silk Mills
- Newmarket Mfg. Co.
- Peerless Weaving Co.
- Red Springs Weaving Mills
- William Skinner & Sons
- S. Slater & Sons Co.
- Suncook Mills
- Warwick Mills
- Watts Mills

These Mills have bought XK Model Looms for Rayon:

- Ashland Corporation
- Associated Textiles of Canada, Ltd.
- Burlington Mills Corp.
  - Blue Ridge Rayon Div.
  - Central Falls Div.
  - Radford Weaving Div.
  - Roanoke Weaving Div.
- Cabot Mfg. Co.
- Cadillac Silk Mills
- Chadwick-Hoskins Co.
- Dunean Mills
- Gossett Mills
- Greenhalgh Mills
- Hathaway Mfg. Co.
- Judson Mills
- Keystone Silk Mills
- Manville Jenckes Corp.
- National Weaving Co.
- Newmarket Mfg. Co.
- Joseph M. P. Ott Mfg. Co.
- Peerless Weaving Co.
- Pepperel Mfg. Co.
- William Skinner & Sons
- S. Slater & Sons Co.
- Stonecutter Mills
- Strasburg Silk Mills
- Suncook Mills
- Syntex Fabrics, Inc.
- Warwick Mills
- Watts Mills
- Wambec Mills, Inc.
- Paul Whitin Mfg. Co.
  - Northbridge Mill
  - Kent County Mill

These Mills have bought XK Model Looms for Spun Rayon:

- Seminole Mills
- Springs Cotton Mills
  - Eureka Plant
- Victor Monaghan Co.
  - Monaghan Plant

X Family Looms Sold

Up to March 1 1940

Model	Brought Out	Looms Sold
X	October 1930	37,244
XK	April 1935	12,796
XL	April 1935	2,959
XD	April 1939	4,165
Total		57,164

Draper Corporation

Atlanta Hopedale Spartanburg

American Textile Mills Are Modernizing

Pontamine* Diazo Colors

Pontamine Diazo Yellow 4G (Patented)
Pontamine Diazo Yellow 2GL (Patented)
Pontamine Diazo Yellow GM (Patented)

Pontamine Diazo Orange
Pontamine Diazo Orange G (Patented)
Pontamine Diazo Orange 3G (Patented)
Pontamine Diazo Orange GR (Patented)
Pontamine Diazo Orange R
Pontamine Diazo Orange RFW
Pontamine Diazo Orange 2R (Patented)
Pontamine Diazo Orange WD (Patented)

Pontamine Diazo Brown 6G
Pontamine Diazo Brown R (Patented)

Pontamine Diazo Bordeaux 7B
Pontamine Diazo Bordeaux 2BL
Pontamine Diazo Bordeaux RB
Pontamine Diazo Red 5BL
Pontamine Diazo Red 7BL
Pontamine Diazo Red BFW
Pontamine Diazo Scarlet A
Pontamine Diazo Scarlet 2BL
Pontamine Diazo Scarlet FW
Pontamine Diazo Scarlet GFW
Pontamine Diazo Scarlet R

Pontamine Diazo Violet BL (Patented)
Pontamine Diazo Violet RR (Patented)

Pontamine Diazo Blue BR
Pontamine Diazo Blue BRW
Pontamine Diazo Blue 3G (Patented)
Pontamine Diazo Blue 6G
Pontamine Diazo Blue 5GL
Pontamine Diazo Blue NA
Pontamine Diazo Blue 6RN

Pontamine Diazo Green BL (Patented)
Pontamine Diazo Green 3G
Pontamine Diazo Green 2GL
Pontamine Diazo Green GW (Patented)

Pontamine Diazo Black BHSW Conc.
Pontamine Diazo Black OB
Pontamine Diazo Black RS
Pontamine Diazo Black ZV Conc.

Du Pont Primuline
Du Pont Primuline Concentrated

The discovery in 1887 that an attractive red could be obtained by diazotizing Primuline dyed on cotton, then developing with beta naphthol, established an important new general method of producing dyeings having superior wash fastness.

Today, developed colors, because of their very good discharge properties and fastness to washing, are used widely in ground shades for discharge printing of cotton, viscose process rayon and pure silk.

In 1922, Du Pont began the manufacture of developed colors. From its laboratories and plants has emerged the present line of 43 products, ranging from a brilliant greenish yellow to a full, bloomy black—each fulfilling a specific need.

The production of Pontamine Diazo Colors requires unusual care. Products of uniform quality, working properties and dischargeability are essential in meeting exacting standards. Modern manufacturing facilities plus skilled technical supervision and checking of each raw material and operating step by control laboratories are combined to achieve these results.

*Reg. U. S. Pat. Off.

DU PONT DYESTUFFS

E. I. du Pont de Nemours & Co. (Inc.)
Organic Chemicals Department
Dyestuffs Division
Wilmington, Delaware, U. S. A.

TEXTILE BULLETIN

Vol. 58 April 1, 1940 No. 3

Some Causes for Poor Spinning Quality of 1937 Cotton Crop

By Robert W. Webb, Principal Cotton Technologist

U. S. Department of Agriculture

Following is the summary and conclusions of an address made by Mr. Webb before Committee D-13 of the American Society for Testing Materials at their recent meeting in Charlotte, N. C. It concerns some of the results of a study being made by the Department of Agriculture to obtain information on the characteristics of cotton produced in this country; of how cottons of special characteristics can be distinguished and recognized; of where they can be found; and of how these characteristics are influenced by variety of cotton, type of soil, climatic conditions, and the like.

IN an attempt to discover the reason or reasons for the relatively poor spinning quality of a considerable portion of American cotton from the 1937 crop, as reported by manufacturers of automobile tire cords, threads, belting, and other so-called mechanical fabrics, a special study was undertaken of the fiber, yarn, and cord properties and the manufacturing waste of different cottons selected from the so-called Regional Variety Series. Two varities of American upland cotton were chosen for the study: Missdel 4 and Stoneville 5, and corresponding sets of samples were obtained from the 1937 and 1936 crops. The latter has been used as a basis of comparison, since no unusual manufacturing experiences were occasioned with the 1936 cotton crop, and since its spinning quality proved to be more or less normal or slightly better than average.

The same points of growth, 11 in number, were included for both the 1936 and 1937 seasons. They were widely scattered over the rainfall area of the cotton belt, as follows: Statesville, N. C., Florence, S. C., Fort Valley, Ga., Prattville, Ala., Knoxville, and Jackson, Tenn., Stoneville, Miss., Baton Rouge, La., the upland and delta stations at Marianna, Ark., and Lubbock, Tex.

Many Different Tests Taken

Measures of cord, yarn, and fiber properties have been made as follows: strength of 23-5-3 tire cord, weighted skein strength of 22's yarns, adjusted skein strength of 22's yarns, appearance of 22's yarns, manufacturing waste, grade of the raw cotton, upper quartile length of the fiber, variation of fiber length, Chandler bundle strength, fiber weight per inch, per cent thin-walled fibers, net area of fiber cross section, net lumen area of cross section, ratio of fiber cross section axes, 40% angle of the cellulose, the cuprammonium fluidity of the cellulose, the alkali solubility of the cellulose and the copper number of the cellulose.

By averaging the data for both varieties, the results have been considered, first, with respect to season or crop year, and, secondly, in regard to location. The data and relationships are presented in this paper in multiple chart form. While the findings have been analyzed also with respect to variety, by averaging the data for the two crop years and for the different locations, the data are not discussed since the varietal phase is beyond the scope of this paper. General reference, however, is made to the varietal relationships that have been observed.

Spinning Tests Show Difference

The spinning results for the two years showed that on the average the 1937 samples were inferior to those of 1936 by 4.1% as regards cord strength, and 8.00% as concerns yarn strength. Not all of the samples tested for the 1937 crop were inferior to the corresponding samples for 1936 with respect to yarn and cord strength. That is, at only five of the eleven stations, namely, Florence, S. C., the delta station of Marianna, Ark., Fort Valley, Ga.,

(Continued on Page 39)

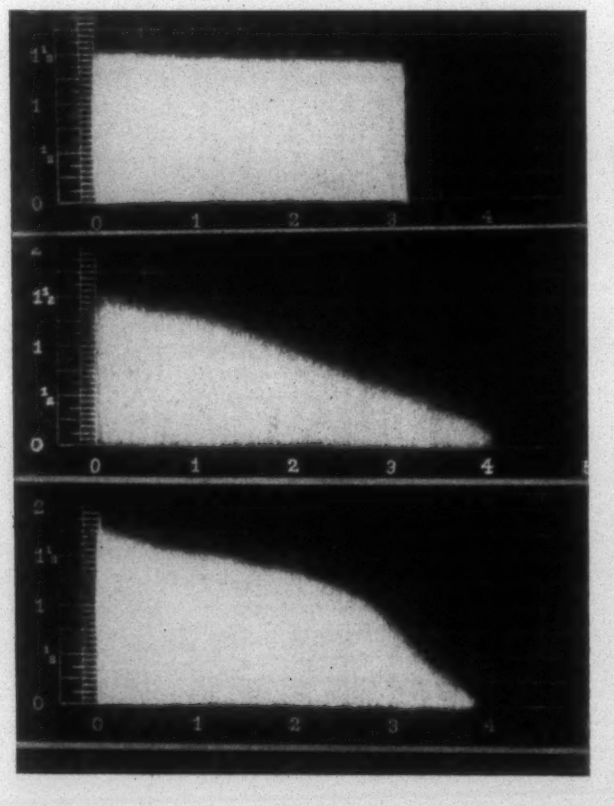
Staple Rayon Spinning

By Carl D. Brandt, Research Engineer

Whitin Machine Works

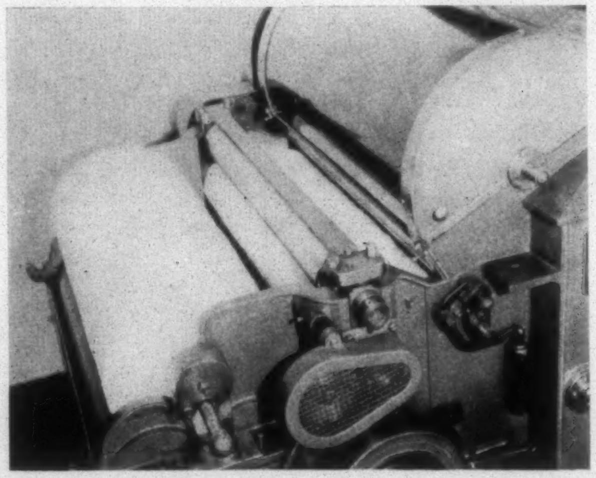
IN cotton manufacturing the blending of a number of bales is one of the very essential steps in keeping yarn quality uniform. As many as twenty-five or more bales are laid out and fed simultaneously to the openers. In former times, when manufacturing costs were not such a paramount item, much larger mixes were used. Today, the staple fiber mill does not mix lots but keeps each one separate. It is, therefore, essential that the mill follow through and keep an accurate check on the progress of individual lots.

As an example of the staple character of stock that many mills would possibly wish to run, three fiber distribution diagrams are shown. These illustrate staple rayon, cut worsted top and long staple cotton. From the manufacturing angle, the rayon offers the best distribution and certainly should allow the best degree of fiber control during the drafting processes. The uniform length makes possible close settings on all machines employing roller drafting and, therefore, a more even product should be obtained. Due to this better control, it is quite possible to employ higher drafts throughout the various processes.



Top, staple fiber; center, cut top; bottom, commercial 1½" cotton

At the present time, the two most widely used rayon staple fibers are the viscose and the acetate. These may be obtained cut to any desired length, although the most popular for use on conventional cotton machinery is approximately one and one-half inches. The denier, or filament diameter, of the two types does not cover the same range—the viscose type may be obtained as fine as one and one-quarter denier; the acetate limit for fineness is approximately one and one-half denier. As a matter of comparison, the cross sections of the longer staple cotton fibers are roughly equivalent to rayon staple fiber of one and one-half denier.



Picker Lap

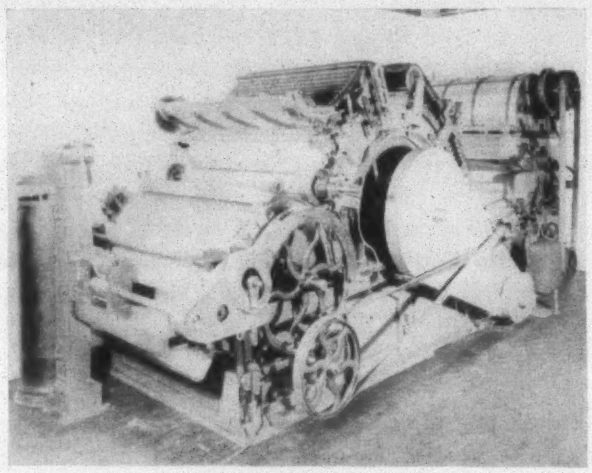
Blends May Offer Problems

The cut top and cotton are often employed with rayon staple fiber in various blends. It will be readily seen, however, that when this is done, the introduction of increased amounts of short staple will render the subsequent roller drafting more difficult. This is so because an increase in the amount of free-floating short staple will make for greater irregularity. Often the appearance of these fancy blends in the different stages of carding and spinning leads one to believe that the material is far more irregular than is actually the case. This is apparently due to the fact that the various staples offer varying degrees of resistance to the insertion of twist. These irregularities generally disappear at the spinning frame when the final yarn twist is inserted.

Fibers of different diameters react differently during the manufacturing processes. If a blend is made of, say, a viscose staple fiber of one and one-half denier and a cut worsted top or a three denier acetate, one will notice that, throughout the drafting processes, it is the coarser fibers that drop out and settle on the roll beams. The reason for this is the fact that in a field of draft, the coarser fibers tend to come to the outside ofthe fiber mass while the finer ones form the core. This is a very desirable feature for, in fancy blends, it is the costlier and generally the coarser fibers that are wanted on the surface of the yarn. It is often possible, therefore, to obtain the desired effects with low percentage blends of the wool or acetate.

Acetate Can Be Spun Alone

One often hears the statement that straight acetate staple fiber cannot be processed. This is not entirely correct. It is quite possible to spin acetate by itself. Since the fiber seems to develop and carry higher static charges than the viscose type, greater difficulty in handling is sometimes experienced. It is a well-known fact that all staple fibers are very susceptible to static and, therefore, temperature and humidity should be nicely controlled throughout the mill. Any substance that is extremely smooth will generate a greater charge than one that is more irregular. This is apparently the reason why rayon becomes more highly charged than the spiral cotton fiber. Various treatments, generally applied by the staple manufacturer, have overcome the greater part of this difficulty. In the mill, control of moisture alone is not enough; temperature is also very important. Blends of rayon and wool require relatively high temperatures to insure good running work.



Card with Bramwell Feed

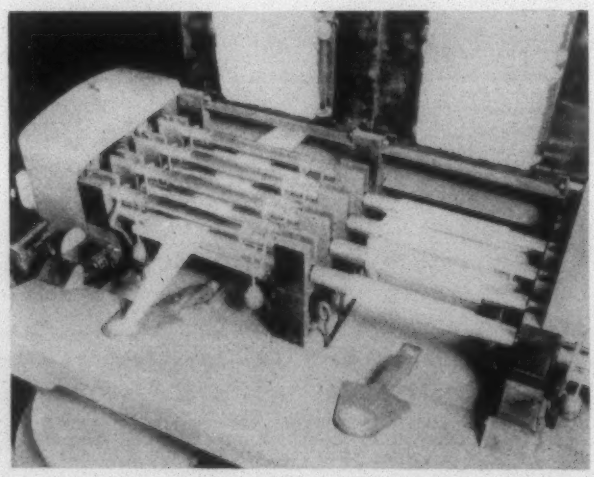
Any up-to-date mill can successfully handle rayon staple fiber up to an inch and one-half in length. The older the equipment, the more difficult this will be, naturally. Worn bearings, eccentric rolls, gear trains with too much backlash and worn spindles are a few of the "troublemakers" that will complicate the problem. On the other hand, a mill with modern opening picking, carding, single process roving and long draft spinning can turn out a range of numbers and blends that will meet most requirements. It will be well, therefore, to bring the plant up to good physical condition before attempting to produce quality yarns or fabrics. If it is desired to run staple lengths to approximately two inches, this may be done by making a few minor machine alterations.

Before going into the matter of machine operations it might be well to consider the state of the staple fiber as it is received at the mill. It is free from foreign matter and short fiber. Sometimes bales are received in which the fibers are harsh and matted, containing hard, beady pieces. This is unusual, however. Ordinarily, the bulk of the fiber requires only two operations: opening and parallelization.

Blending of Mixes

The proper blending of mixes (making use of different kinds of staple) might be given some consideration. Elaborate systems may become rather costly if too much manual labor is required. One method employs the regular sandwich stack, as practiced in the woolen industry for many years. Layers of the different fibers, in correct proportions, are laid out on the floor, and the stack is built up until a reasonable thickness is obtained. Quantities taken from the stack vertically are then fed to the lattice apron feed or hopper directly. The mixture then passes to a beater and into a bin to be conditioned for a time. This stock in the bin serves to feed the hopper of the finisher picker.

A second convenient layout, especially useful when small amounts of a second fiber are to be added to a larger percentage of rayon, employs a lattice feed apron and a lap. This lap, correct in weight and containing the effect fiber, is supported on the feed apron. The rayon proper comes from a hopper feed onto this lattice apron and then the mixture passes on to the beater. A lap made by this method will contain a constant percentage mixture. Sometimes a lap of straight, cut, worsted top causes some trouble but with a moderate amount of care the mixture can be made successfully. In all work involving the use of different types of fibers, a great deal of worry can be avoided by the proper use of tinting mediums. These fugitive colors can be conveniently applied at the picker.



Drawing Frame

Opening and Picking

The opening and picking processes are literally what the names imply—picking apart and opening the bunchy, matted fiber. No cleaning is necessary. All grid bars can be closed to prevent excessive loss of fiber. Since rayon is denser than cotton, a fairly strong air current at the screens is required to form a compact sheet. Nevertheless, it is sometimes necessary to run in strands of roving at the lap calender rolls to prevent splitting. When running coarse denier stock three or four strands may be run in on each side of the sheet. To insure the free removal of the lap roll, it may be tapered slightly or covered with a heavy cardboard tube.

Excessive beating should be avoided. Kirschner or carding beaters, running approximately 600 R.P.M., will, ordinarily, do sufficient opening. Too much beating will tend to form neppy stock and curl the fiber. On a test run, it was found that one extra or unnecessary run through the picker reduced the final yarn strength about 5 per cent. Fiber arrays before and after picking prove that very little damage is done here if ordinary care is exercised.

Bramwell Feed On Cards

An entirely different arrangement, whereby a Bramwell Feed replaces the lap at the card, may be used if the rayon staple fiber has been properly prepared. While this set-up is very convenient for small lots, the matter of floor space requirements sometimes becomes a problem on large scale installations. To deliver a uniform sheet of fibers to the feed roll requires all parts to be free-working and accurately adjusted. The reduction in the amount of hanling should be beneficial to some degree.

At present, the carding process may be considered the "bottle neck" of the manufacturing process, as far as staple length is concerned. It is rather difficult to card fiber properly beyond two and one-half inches, especially in the finer deniers. Coarse rayon fibers will card with less tendency to "nep" but since they are not cohesive, trouble will be experienced at the doffer web. The longer and coarser rayons must be carded on the worsted card.

Speeds On Cards

It might be well to consider machine speeds and production. There appears to be a rather definite connection between the quality and quantity of product. No machine will produce top quality if pushed to the limit; the card is no exception. On staple fiber, about six pounds per hour is the top rate, but to produce this properly the card must be in good condition. The inch and one-half staple can be run with little difficulty. A few changes are sometimes necessary to run the longer stock. To prevent loading of the licker-in, a reduction in speed, sometimes below two hundred, is advisable. Of course, the clothing must be sharp and tight on the cylinder. No turned points are permissible. To prevent too much strips, the flats are slowed down to an inch a minute or so. In fact, they may be stopped entirely and turned over at intervals of five or six hours. The use of a fancy will prevent the cylinder from loading whenever running two-inch staples or wool mixes. This arrangement will handle a wool mix of 50% quite successfully. Straight wire and metallic clothing have been tried. The metallic clothing appears a bit too harsh in its action. No hard or fast rules for settings can be given; each producer must adjust his cards to satisfy his particular condition. Here, again, fiber arrays have proven that carding need not injure the staple.

Drawing

New draw frames, incorporating wider roll stands and larger rolls, have been built to handle the longer staples. The conventional drawing is sometimes used by removing one line of rolls or running an unweighted top roll. The larger rolls are more advantageous, as they allow better control and prevent excessive lapping. Some mill men recommend blending at the draw frame but this is a doubtful practice. Satisfactory mixing can hardly be obtained if the blend is at all heavy. As to the number of drawing processes; sometimes, very good results are obtained with two drawings; at other times, three drawings appear better, especially on blends. The proper number is readily determined by trial. Cushion top rolls are to be preferred in the majority of cases. While these will not stand up so well under heavy weighting, the fact that the staple is very uniform in length allows close settings without the necessity of too great weight. Though the process itself appears very simple, it should be watched carefully, as any unnecessary irregularity introduced at this point will carry through to the yarn.

Single Process Roving Advantages

Single process roving is ideally suited to staple fiber, as excessive handling is unquestionably detrimental. The modern super-draft with aprons to act as carriers, preventing the spread of the fibers in the high draft field, fits into an organization very nicely. Four or five hank roving can be made in one step from a 60-grain sliver of average quality. Using the old three-roll frames with an unweighted middle roll is not very satisfactory. It is rather difficult to control any large mass of fibers by means of a self-weighted slip roll. The longer staples become extremely sensitive to twist and a positive grip is required to draft properly. The gentle yielding action of the aprons directly behind the front roll is the secret of uniform fiber control. Twist multipliers will run from $.75\sqrt{hk}$ to $1.0\sqrt{hk}$ of the roving to be made. Due to these low twists the front roll speed will be rather high. It is, therefore, advisable to reduce the flyer speed at times as much as 20%. Better running work with reduced fly and waste will result.

Spinning

The three changes found beneficial to roving apply equally well to spinning, namely, the use of aprons, enlarged rolls and reduced spindle speeds. Drafts may be increased somewhat. The normal range with cotton is 16 to 20, but with rayon staple this may be stepped up to 20 or 25. High drafts and high speeds tend to increase the static charge set up in the fiber mass. Twist multipliers necessary for yarns of maximum strength are, nat-

(*Continued on Page 35*)

WE PUT THEM TOGETHER

To boost your Profits

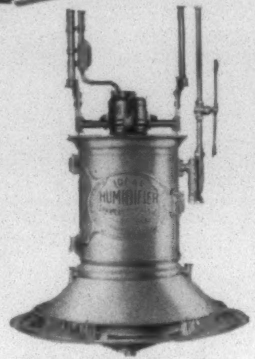
CARDING Amco Humidification allays static, reduces waste and fly, speeds production. Reduces clinging and web breakage.

ROVING Amco Humidification permits higher draft, greater speed, with lower twist, and maintained higher regain throughout the subsequent processes.

SPINNING Amco Humidification reduces ends down, increases production, provides a stronger, more even yarn, better control of yarn counts.

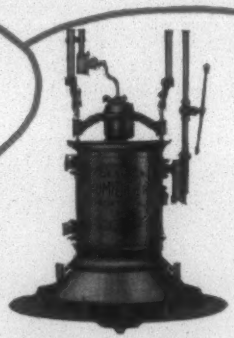
WEAVING Amco Humidification pays dividends at this earning point of the mill; by improving quality and reducing seconds.

Amco No. 4 Self-Cleaning Atomizer, proved in 5 years' critical service. Provides better spray, without drip or feathering. Automatically cleans air and water nozzles.



Amco Ideal Sr. Humidifier, of large evaporation capacity, called for under conditions of high heat demand. Motor-driven fan assures efficient distribution of atomized spray.

Amco Humidity Control . . . . The brain and nerve center of the modern, completely automatic Amco Humidification System. Sensitive, reliable, unaffected by temperature changes.



Amco Ideal Jr. Humidifier . . . . Embodies the same high quality and the same design advantages as the Ideal Sr., with a capacity high enough for all average requirements.

Carding, roving, spinning, weaving — adequate humidification, automatically controlled within close limits, is as much a part of each process as the machinery itself! Let the Amco Engineer show you how each process can be surrounded with "Money-Making Air." American Moistening Co., Providence, R. I. • Boston, Mass. • Atlanta, Ga. • Charlotte, N. C.

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Gaston County Division Discusses Electrical Equipment

THE Gaston County Division of the Southern Textile Association held its Spring Meeting at the Boy Scout Headquarters, Gastonia, N. C., on the evening of March 15th, with approximately 125 members and guests present. H. Gilmer Winget, superintendent of the Victory and Myrtle Mills of Textiles, Inc., presided, as chairman of the Division, and introduced Chas. K. Bryant, president of the Bryant Electric Repair Co., Gastonia.

H. GILMER WINGET
Chairman of
Gaston County Division

Mr. Bryant, in speaking of the care and upkeep of electrical equipment in textile mills, mentioned the importance of maintaining proper connections on all electrical equipment, saying that all connections should either be solderless or very carefully soldered. Wiring should be checked over to be sure that it is heavy enough to carry the load imposed without heating, and all motors should be checked to be sure that they are not loaded to the point where heating occurs.

Bearings are the most frequent cause of motor troubles in textile mills, Mr. Bryant said, with babbit bearings tending to wear out and bronze bearings getting too hot and sticking to the shaft, with replacement of both bearing and shafting being necessary when this occurs. Practically all of this trouble, he stated, is the result of improper oiling, and it is most important to see that oil wells are open at all times. Oil wells should be checked and cleaned frequently, to be sure that the bearing is receiving its proper quota of oil.

Another reason for motor failure is improper handling when moving them from one part of the mill to another. Rough treatment of old motors tends to break down the insulation and may result in the failure of the insulation. When a motor begins to heat up, it is a sure sign that there is something wrong, and it should be inspected to determine the cause for the heating before the inevitable failure occurs.

Motor controls should be properly engineeered, with the proper control installed on each motor, he stated, since the best motors are dependent on their controls for satisfactory operation and long life. All controls should have overload protection, to protect against sudden surges of power that might result in the burning out of the motor. An overload device set to about 5% above maximum load for the motor should give ample protection. A common tendency in parts of textile mills is to jog a motor on and off at times to prevent belts from slipping off of pulleys, and this is a good way to appreciably shorter the life of control contacts, said Mr. Bryant.

At this point Marshall Dilling, superintendent of the A. M. Smyre Mfg. Co., inquired as to the proper loading of a motor to obtain the maximum efficiency of operation, and Mr. Bryant stated that from three-fourths to full load was preferable, with from 90 to 95% load ideal conditions. This would prevent excessive power consumption of an underloaded motor and leave sufficient leeway to avoid heating from overload.

Mr. Winget asked about some of the causes of a motor having burned out coils, with the following causes being advanced as the most probable: A shorted turn or turns will cause coils to burn out; overload causes insulation to break down from heat, with subsequent shorting out of coil; sometimes a motor will be improperly wound and will burn out coils shortly after being put into operation (this would apply largely to motors that have been rewound in a local shop that is not properly equipped and managed); a corrosive substance, such as oil or acid, getting on the insulation and causing shorts by destroying its effectiveness.

In speaking of maximum demand, which comes into the establishing of the power rate in the Gaston County area, it was brought out that if the power requirements are higher than normal for a period of more than 30 minutes during any period of rate establishment the rate would be greater than if the power requirements (excessive) were confined to a shorter period than 30 minutes. In starting a mill up on Monday morning the power requirement is always larger than for normal operation, since the oil in the bearings has had a chance to become stiff from cooling and the bearings are making a metal-to-metal contact in most cases. This may happen even in plants where apparently the steam pressure is sufficient to maintain adequate heat, due to the fact that the circulation of air is so small that the heat is confined to only a portion of the plant, with other portions overly cool.

A question was raised as to the possibilities of glass fiber insulation on motors increasing their efficiency, and

2 FEATURE ATTRACTIONS AT THE 36th ANNUAL KNITTING ARTS EXHIBITION

APRIL 15 to 18

THE WHITIN
HIGH SPEED
WARP KNITTING MACHINE

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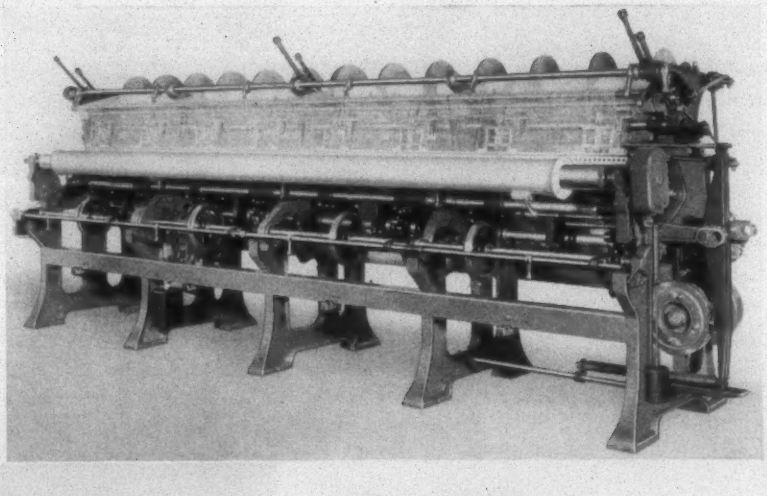
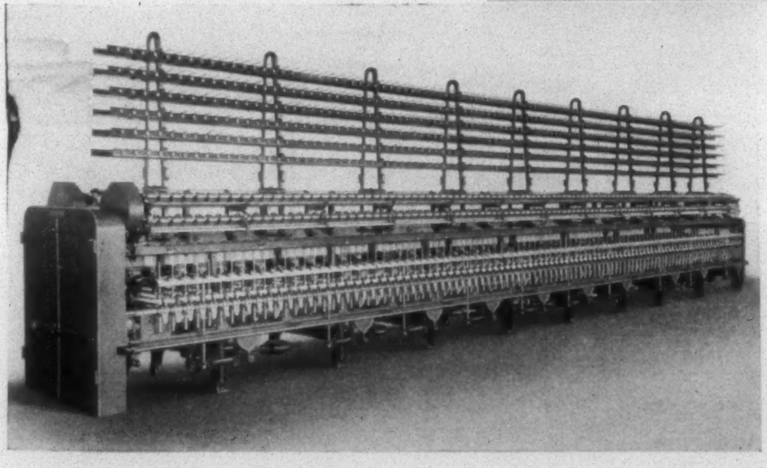
For American Mills





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HIGH PRODUCTION
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FLEXIBLE AND EASILY ADJUSTED

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FOR ALL TYPES OF NOVELTY YARNS

SEE THESE MACHINES IN CONTINUOUS OPERATION IN SPACES 118 to 123

WHITIN MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS, U. S. A.
CHARLOTTE, N. C. ATLANTA, GA.
SELLING AGENTS, Jacquard Knitting Machine Co., Inc., Philadelphia.

Mr. Bryant was of the opinion that this type of insulation was superior to cotton in installations where the motor would be subjected to the action of corrosive acids, etc., as in a dyehouse, but that the added cost would prevent its general acceptance for ordinary operation. The chief factor in insulation failure is the breaking down of the varnish coating on the fiber, and for normal operation of motors the cotton fiber insulation is entirely sufficient, and is not likely to be replaced by another product.

Where a plant is air conditioned, it is important that the motors should not run hot, since this would increase the cost of cooling the plant, probably more than the cost of eliminating the hot motors would amount to.

On the subject of power saving in the mill, the points that should be watched particularly are overloaded wiring, loose joints or improperly soldered connections, underloaded motors, etc. The installation of individual motors tends to increase power consumption, since the motors must have sufficient additional power for starting and overload protection on the individual unit that would not be necessary on group drive. The chief reason for using individual motors is the fact that when there is a motor failure only a single unit is out of production, with negligible results, whereas a failure on a motor driving a large number of units would cause a serious loss of production. The production requirements of the individual mill would govern the advisability of such an installation.

It was generally agreed that a four-frame drive for spinning frames was preferred in most cases. With the four-frame drive, the motor is usually located overhead, which makes the room cooler for the operatives, and the failure of such a motor is not particularly serious in the average plant. Normally, the more frames run by a particular motor the cheaper the power cost, but the loss of production that might result from failure of a large motor will in most cases offset the extra cost of power from the four-frame drive.

The question of the importance of grounding motors was brought up by Frank D. Lockman, superintendent of the Monarch Mills at Lockhart, S. C., and vice-president of the Southern Textile Association. Mr. Bryant said that it was important that all motors be grounded, and that care should be taken to be sure that the ground was adequate. Connections to the ground should be carefully made, and where the motors are grounded to the water system, it is most important that the piping be thoroughly cleaned of paint before making the connection. Connections to the ground should be as carefully made as other electrical connections to insure proper operation when needed.

Talk By W. J. Seibert

Mr. Winget then introduced W. J. Seibert, superintendent of the (Atlanta (Ga.) Service Shops of the General Electric Co., who talked further on the subject of electricity in the textile mill. A summary of the remarks by Mr. Seibert follows:

In the average manufacturing plant, whether textile or some other industry, the maintenance department is looked upon as a necessary evil. This attitude is entirely wrong, because the maintenance department of any manufacturing establishment is just as important as the productive departments, since they depend for their production on the continuous and efficient operation of their productive equipment. The plant that fails to provide adequately for the continuation of proper maintenance is practicing false economy, and will lose money in the long run.

Anticipate Trouble

The master mechanic or electrician must be continually on his toes to anticipate trouble and to prevent failure of the many motors necessary to the operation of any modern plant. An ounce of prevention is worth a pound of cure in this instance, because when a motor that is operating productive equipment fails, there is not only the cost of the electric repair bill to consider, but the cost of the loss of production that is the result of such a failure. The actual repair cost on a large motor, operating a line of cards, that has burned out, might be only a minor part of the total cost that results from having a line of cards out for a number of hours. The entire productive set-up of a mill might be thrown out of line by the failure of a single motor that could have been saved by proper care and inspection.

An efficient power factor rating is important to the mill not only from the standpoint of power cost savings, but also from the standpoint of the increased cost of feeder lines, etc., that result from a low power factor rating. Regardless of the system under which power is purchased, a low power factor is costly to the mill.

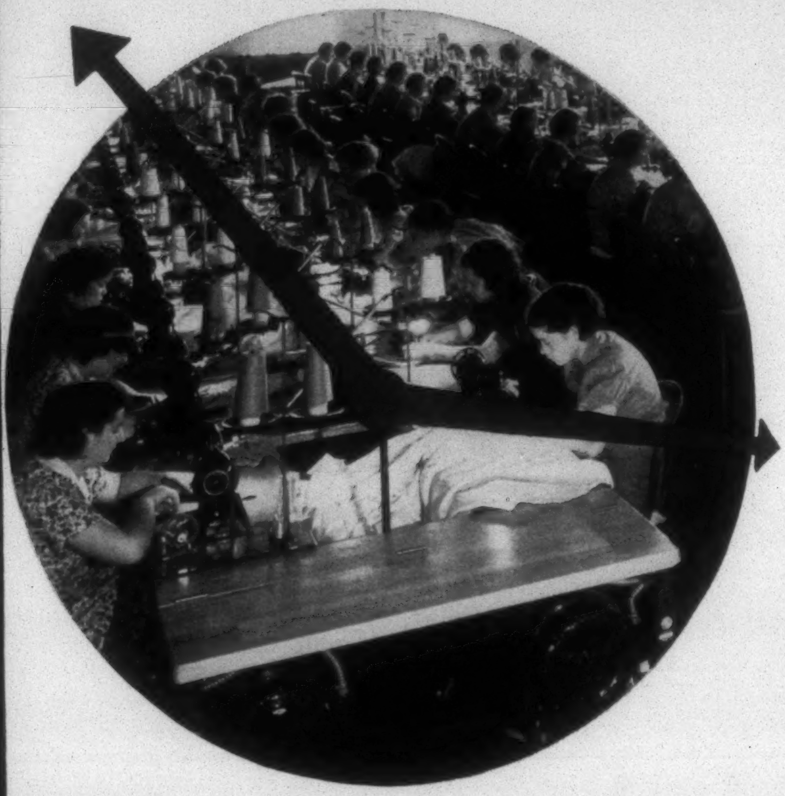
Proper Grouping of Motors

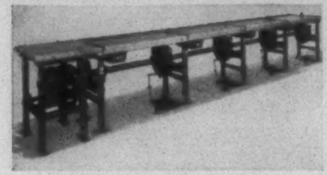
Another point which may be frequently overlooked is the fact that in many cases a mill may be losing money because the motors that are installed in the plant are not pulling the proper load. Very often it is found that some motors are heavily overloaded, while others are ridiculously underloaded. Where this is the case, it may be possible to effect a considerable saving by replacing the motors so that each one is operating at near its full rated capacity. (Reporter's note: There has recently been an installation of 24 spinning frames (additional) in a textile mill in the South, where by proper grouping of drives and motors the superintendent was able to operate with the same number of identical motors as before with only a very minute increase in power cost.)

At least every six months the bearings on all motors in a plant should be inspected with guages, to determine bearing wear. Where it is found that there has been excessive wear on any bearing, it should be replaced, before the motor has had a chance to burn out, because, as previously stated, bearing failure is the greatest cause of motor failure. Where a bearing shows excessive wear, a check-up should be made to find the cause of the wear. Belts too tight, shaft crooked or binding, couplings loose, oil holes stopped up, vibration, etc., may cause bearing trouble, and frequent inspection will enable the mechanic to discover such difficulties before the motor actually fails. If an oil leak is discovered while inspecting, the leak should be fixed immediately, because not any of the varnishes now being used will stand up under a continuous bath of oil.

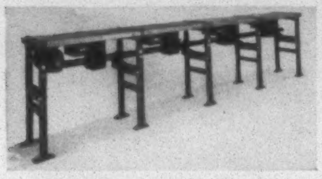
(Continued on Page 28)

"as ye *Sew* so shall ye reap"

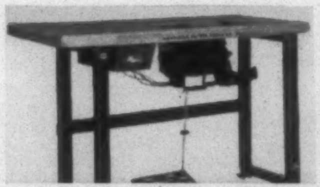




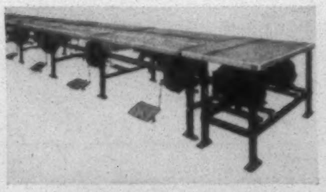
AMERICAN SEAMING TABLE
Designed for full fashion seaming, mock seaming, cotton burlap and canvas bags, this table is built extra heavy. A 1½ H.P. motor operates ten machines.



AMERICAN LOOPING TABLE
Extra heavy table, with a ½ H.P. ball-bearing direct connected speed reducing motor which will drive all types of loopers at their correct speed.



American Individual Drive Unit
This compact machine combines the benefit of an amazingly efficient air-cooled motor with the great savings of American's famous Patented Ball-Bearing Clutch and Brake.



AMERICAN SAFETY TABLE
The most efficient group drive ever built featuring patented clutch and brake, direct drive, steel encased moving parts, scientific lubrication, and table leg transmissor mounting.

OFTEN THE SEWING ROOM DETERMINES PLANT PROFIT

Are you attaining maximum production? Look to your sewing operation for the answer. Here speed and efficiency play the dominant parts . . . determine your harvest of profits. American Safety Tables put profit in production by speeding operations and reducing costs.

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Program Announced for A. C. M. A. Convention

Outstanding speakers will be heard at the Forty-fourth Annual Convention of the American Cotton Manufacturers' Association, to be held at Greenbier Hotel, at White Sulphur Springs, W. Va., on April 25th, 26th and 27th, said W. M. McLaurine, secretary and treasurer of the organization, in announcing the details of the convention program.

More than 500 reservations have already been made and indications are that attendance will be unusually good at this meeting, he said. The theme is a constructive program for American business and Mr. McLaurine and other leaders in the Association, which represents the textile industry of the South, feel that a program has been planned to develop this theme in an interesting and beneficial manner.

Three speakers will be heard at the opening general session, which begins at 10 o'clock Friday morning, April 26th. K. P. Lewis, of Durham, president of the Association, R. M. Hanes, of Winston-Salem, president of the American Bankers' Association, and Dr. Virgil Jordan, of New York, president of the National Industrial Conference Board, Inc., are these speakers.

Friday afternoon will be devoted to a golf tournament under direction of J. D. Sandridge, of Charlotte, and to a skeet tournament of which J. E. Moore, of this city, will be in charge. For those who do not take part in this or other recreation, there will be various interests. There will also be meetings of several special committees.

The annual banquet will be held in the Collonades dining room at 8 o'clock Friday evening, with Mr. Lewis as toastmaster.

At the session Saturday morning, various reports will be made. Dr. Robert E. Rose, director of the duPont Technical Laboratories, of Wilmington, Del., will make the report on the Textile Foundation. Committee reports will be made as follows: Cotton, A. K. Winget, of Albemarle, chairman; traffic, R. R. West, of Danville, Va., chairman; A. C. M. A. Student Loan Fund, Inc., Mr. McLaurine; National Industrial Conference Board, Inc., Stuart W. Cramer, Cramerton, N. C., chairman; resolutions, Mr. West, chairman; nominations; and legislative affairs. Officers will be elected, the president's medal will be presented, and various matters of business will be taken up.

Gastonia Mill Employee Killed in Accident

Gastonia, N. C.—William T. Fox, 43, card room employee at the Trenton Cotton Mills, was killed instantly in an accident in the freight elevator of the mill March 2nd.

Mr. Fox was transferring large bobbin box from one floor to another and apparently left the box sticking out of the elevator too far, so that it struck the wall and was thrown against him, killing him instantly.

N. C. State Textile Frat Accepts New Members

Raleigh, N. C.—Seven students with high scholastic averages in the State College Textile School were initiated March 8th into Sigma Tau Sigma, honorary textile fraternity. Membership in Sigma Tau Sigma, which was founded at State College in 1929, is limited to top-ranking seniors.

New members are G. H. Fulcher, of Leaksville; F. A. Walker, of New Bedford, Mass.; W. B. Mattocks, Jr., of Sanford; C. F. H. Begg, of Charlotte; N. H. Goldberg, of Brooklyn; Seymour Schandler, of Asheville; R. B. Kelly, of Rockingham, and R. E. Towers, of Rome, Ga.

Officers of the fraternity are C. K. Watson, of Red Springs, president; C. R. Jennette, of New Bern, vice-president, and D. E. Hamilton, of Charlotte, secretary-treasurer.

W. Ray Bell Again Heads Cotton Textile Merchants of New York

At a directors' meeting of the Association of Cotton Textile Merchants of New York, W. Ray Bell was re-elected president and Charles A. Sweet, of Wellington, Sears Co., treasurer.

Saul F. Dribben, of Cone Export & Commission Co., was elected vice-president.

To serve with these officers as an executive committee were named: Floyd W. Jefferson, of Iselin-Jefferson Co.; George M. Miller, of Turner Halsey Co., and Frederic A. Williams, of Cannon Mills, Inc.

Southern Textile Basketball Trophy

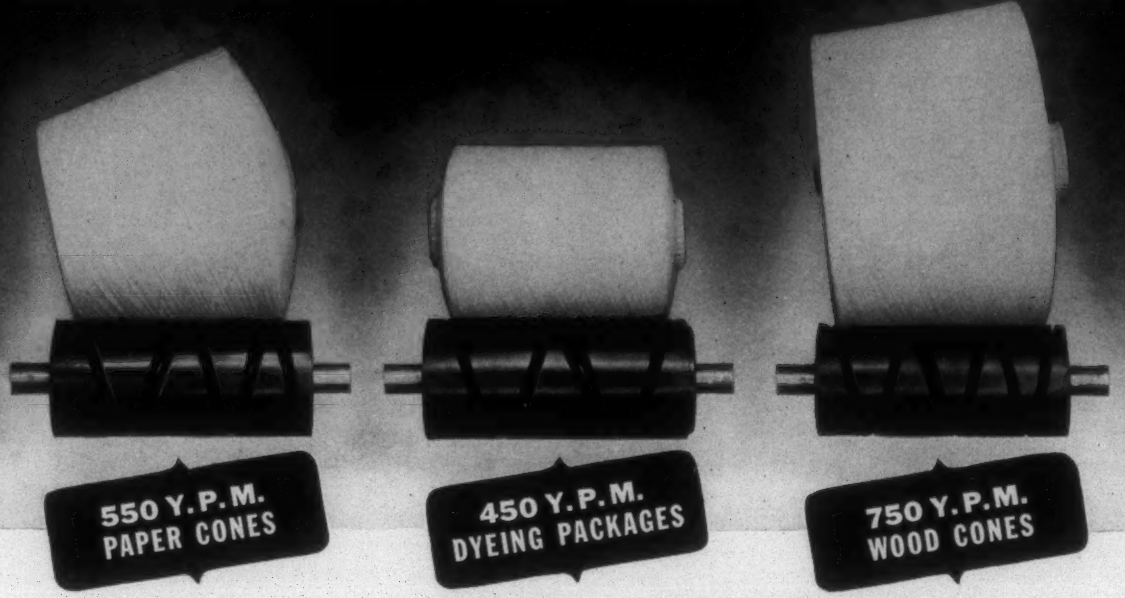
Shown here is the trophy which is presented to the Class A Boys' team winning the annual Southern Textile Basketball Tournament, held each year in Greenville, S. C., by the Corn Products Refining Co. This trophy may be kept permanently by any team winning three times, and it replaces the one which is now in the permanent possession of the Southern Bleachery team following their third win last year.

Winner of the trophy this year, in the tournament just completed, was the Dixie Aces of the Dixie Mercerizing Co., Chattanooga, Tenn.

With a large number of entries from the two Carolinas, Georgia, Alabama, and Tennessee, the tournament winners in the various classifications this year were as follows: Dixie Aces, Dixie Mercerizing Co., Chattanooga, Tenn., Class A Boys; Hanes Hosiery Mills, Winston-Salem, N. C.; Class B Boys; Lonsdale Co. of R. I., Seneca, S. C., Class C Boys; American Enka Corp., Enka, N. C., Class A Girls; Dixie Mercerizing Co., Chattanooga, Tenn., Class B Girls.

Higher Winding Speeds Give You

MORE MACHINE FOR YOUR INVESTMENT



Many cotton yarn mills in this country and abroad have found — in the Roto-Coner — an opportunity to increase *production* as well as improve quality of winding.

Compare the figures above with the speeds of your present machines. Keep in mind, also, that with the rotating-traverse winder, there are no cams to limit the winding speed, which is only limited by the way the yarn comes off the bobbin. Elimination of cams also means lowest maintenance cost.

From many sources, we have heard that mills consider the Roto-Coner "outstanding" in principle, construction and ease of operation — in the words of one mill executive, "the finest development in Textile Machinery in many years."

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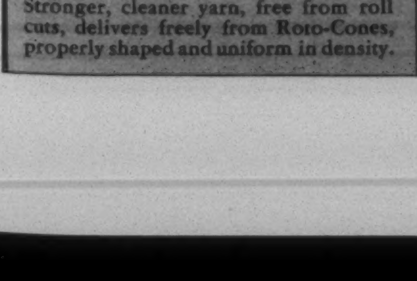
ROTO-CONER

**UNIVERSAL
WINDING COMPANY
PROVIDENCE, R. I.**

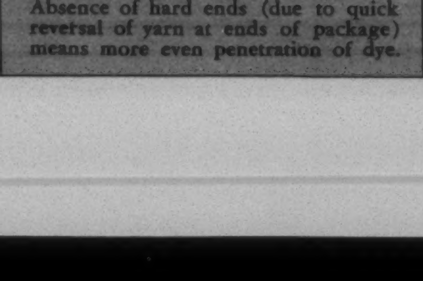
THE ROTATING TRAVERSE WINDER

BOSTON · PHILADELPHIA · UTICA · CHARLOTTE · ATLANTA

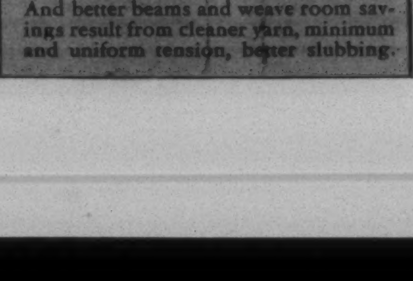
QUALITY PACKAGES FOR KNITTING, DYEING, WEAVING



Stronger, cleaner yarn, free from roll cuts, delivers freely from Roto-Cones, properly shaped and uniform in density.



Absence of hard ends (due to quick reversal of yarn at ends of package) means more even penetration of dye.



And better beams and weave room savings result from cleaner yarn, minimum and uniform tension, better slubbing.

Piedmont Division S. T. A. Meeting in Charlotte April 6th

The Piedmont Division of the Southern Textile Association will hold its spring meeting at the Charlotte Hotel, Charlotte, N. C., at 9:45 on the morning of April 6th. B. M. Bowen, superintendent of the Salisbury Cotton Mills, Salisbury, N. C., is chairman of the Division.

Questions for discussion will be confined largely to weaving and slashing, and will include such subjects as life of shuttles, purchase of loom parts, automatic controls on slashers, positive drives on slashers and creels, improvement of cloth for sanforizing, cloth room repairs, size of filling quill, etc.

Paid Workers With Bogus Check

A bankruptcy petition has been filed in U. S. District Court against the Neuse Mills, Inc., at Neuse, N. C., which is already facing the allegation of wage fraud in Superior Court.

Five creditors of the textile mill alleged in a complaint to the Federal Court that the company owed $1,000 or more, was insolvent and should be declared bankrupt within the purview of the Federal bankruptcy act.

The petition followed close on the heels of a suit filed by a committee of workers, who alleged that S. Levine, of New York City, mills president, had paid them with worthless checks and had failed to respond to an attorney's negotiations for compensation of $2,856.

The workmen said that S. Levine had forced them to accept employment from the textile plant. Unless they did so, he threatened to have their names stricken from the relief rolls as having been offered work and refusing it. Many Raleigh merchants are holding the worthless checks. One firm, he reported, has more than $100 in them. More than 100 mill workers and their families face privation and possible eviction from their unpretentious dwellings, and it is reported that Mr. Levine is attempting to collect rents.

Fishing Trip

A recent fishing party in Florida has consisted of Robt. E. Henry, of Dunean Mills, Greenville, S. C.; Nick Carter, of Carter Fabrics Co., Greensboro, N. C.; William Fraser, of J. P. Stevens & Co., New York, and Robt. Scott, of the Chemical National Bank, New York.

Coming Textile Events

APRIL 6

Piedmont Division, Southern Textile Association, Charlotte Hotel, Charlotte, N. C., 9:45 A. M.

APRIL 20

South Carolina Weavers' Division, Southern Textile Association, Drayton Mill Y. M. C. A., Spartanburg, S. C., 9:45 A. M.

APRIL 25-27

American Cotton Manufacturers' Association, Annual Convention, Greenbiar Hotel, White Sulphur Springs, W. Va.

APRIL 27

American Association of Textile Colorists and Chemists, Piedmont Section, Spring meeting, King Cotton Hotel, Greensboro, N. C.

Sued for Transporting Convict Made Goods

Columbia, S. C.—The defendants in an action by the United States for infringement of the Ashurst-Sumners Act against the transportation of convict-made goods across State lines were fined $25 each by United States Judge Alvah Lumpkin, sitting in session in this area. After assessing the fines the court set the defendants free.

General Dyestuff Plans Offices and Warehouse in Charlotte

Plans for a large warehouse, laboratory, and office building for the General Dyestuff Corp. to be finished by November 1st have been announced by B. Anderson-Stigen, branch manager, Charlotte, N. C.

Bids on the concrete, steel, and brick structure must be tabulated before cost an be approximated, he said. Contracts will be made through the New York firm of Francisco and Jacobs, engineers and architects. It will have 50,000 square feet of floor space.

Construction is expected to begin in a few weeks. Because of expanding business, Mr. Anderson-Stigen said, the corporation several months ago bought the site near the Cook Body Works to replace the present leased quarters on South Boulevard.

Standard Mill Supply Opens Branch in Charlotte

Charlotte, N. C.—Standard Mill Supply Co., of Pawtucket, R. I., will open a Southern branch office in Charlotte on May 1st, according to an announcement made by L. F. Ott, president of the company, who has been in the South inspecting possible locations.

The office will be located at 512-14 West Fourth street and will be in charge of A. Benson Davis, Southern manager for the company. Mr. Davis accompanied Mr. Ott on the Southern tour which included North Carolina, South Carolina and Georgia.

Mr. Ott said that he considered Charlotte the most favorable location for a Southern office of any city he had inspected. "Charlotte not only is a growing city," he said, "but it is in the heart of the Southern textile industry which makes it doubly desirable for us."

The headquarters here will be used for displaying machinery offered for sale by the company and as an office. The firm not only manufactures textile machinery, but buys and liquidates mills and rebuilds the machinery in them for resale.

Textile Men Aid Charlotte Hospital Drive

Charlotte, N. C.—The Charlotte Memorial Hospital campaign for $215,000 to complete the million dollar hospital was a complete success. Among the names of contributors of large amounts were B. B. Gossett, of the Chadwick-Hoskins Co.; I. B. Covington, of the Wade Mfg. Co., and W. Irving Bullard, of E. H. Jacobs Mfg. Co.

The Bullard gift was in the form of a memorial, consisting of two wards of five beds each which are to always be available for the hospitalization of crippled children from the mountains of North Carolina.

The memorial plaque will read as follows:

"Erected by Mr. and Mrs. W. Irving Bullard and their children, Mary Ann and Sarah Clark, in recognition of their interest in and contributions to the relief of the handicaps and suffering of crippled children of the Carolinas' mountain section, as reflected in the humanitarian services to these children by Dr. John Stuart Gaul."

Charlotte Leather Belting Apron Department Now Operating

Installation of machinery has been completed in the new and modern textile apron and roll covering shop of the Charlotte Leather Belting Co., according to an announcement by Fred Cochrane, manager.

As previously announced, Mr. Cochrane states that the most modern equipment available has been installed, and nothing but the best grades of calf and sheepskin leathers will be used for the roll covering and the highest quality of chrome and bark tanned leather for the aprons.

Hugh H. White, for 17 years with the roller shops of the Appleton Mfg. Co., of Anderson, S. C., is in charge of the roll covering shop.

Mills Ordered To Pay $10,000 in Dividends

Durham, N. C.—A Superior Court jury has ordered the Henrietta Mills of Caroleen to pay Rufus L. Patterson and other trustees of the Lucy Morehead estate unpaid dividends totaling approximately $10,000 on old preferred stock which the company sought to invalidate under a reorganization plan. The plaintiffs based their suit principally on the contention the new stock plan which they failed to approve violated their vested interests in the old stock. Ninety-six per cent of the stockholders approved the new stock plan. The mills filed notice of appeal to the Supreme Court.

Chemists and Colorists At Greensboro April 27th

Greensboro, N. C.—Plans for the quarterly meeting of Piedmont Section of the American Association of Textile Colorists and Chemists, which will bring about 300 persons to Greensboro April 27th, were worked out by the sectional committee in session with officers of the section at King Cotton Hotel on March 25th. H. E. Kiefer, Ware Shoals, S. C., chairman of the section, presided.

The spring meeting will open with a golf tournament in the morning of Saturday, April 27th, and conclude with a banquet session at 7:30 o'clock Saturday night at King Cotton Hotel. Technical papers will be presented in the afternoon session.

Composing the sectional commmittee are R. H. Souther, Greensboro; R. A. Bruce, Greensboro; W. R. Patton, Durham, and Henry Dixon, Burlington, Mr. Dixon being chairman. Officers include Mr. Kiefer, R. E. Sloan, Greenville, S. C., sectional secretary, and R. D. Howerton, Charlotte, sectional treasurer. All were present last night.

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NOPCO SOFTENER

goes 3 times as far

New in both composition and in action, Nopco 2105-C is fast rendering conventional type softeners obsolete. For this revolutionary softener not only goes three times as far, but also imparts pliability and a pleasing hand to cotton fabrics. In addition, Nopco 2105-C is readily adaptable to rayon and rayon and acetate fabrics.

Thoroughly proved, and now in profitable use in hundreds of leading plants, Nopco 2105-C is rapidly becoming the standard softener in the textile field. Write for full technical data, together with prices.

Among other outstanding products for the textile industry, Nopco manufactures Nopco detergents and Nopco lubricants.

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CHICAGO
LOS ANGELES

NATIONAL OIL PRODUCTS CO.
HARRISON, NEW JERSEY

Personal News

J. C. Stroud is now superintendent Smithfield Mfg. Co., Smithfield, N. C.

H. S. Barney, of Rutherfordton, N. C., is now assistant superintendent Kinston Cotton Mills, Kinston, N. C.

J. C. Stroud, Jr., is now night superintendent Smithfield Cotton Mills, Smithfield, N. C.

Frederick W. Howe, Jr., Southern representative of the Crompton & Knowles Loom Works, Worcester, Mass., has been elected a director of the company.

M. T. Poovey, formerly superintendent of the Hannah Pickett Mills, Rockingham, N. C., is now superintendent of the Raeford (N. C.) Cotton Mills.

Hines S. Richardson has been promoted from second hand to overseer of weaving at S. Slater & Sons, Inc., Slater, S. C.

T. L. Shepherd has resigned as overseer of carding at the Middleburg Mill of Martel Mills, Inc., Batesburg, S. C.

Mr. Waite, of Ninety-Six, S. C., has accepted the position of overseer of carding at the Middleburg Plant of Martel Mills, Inc., Batesburg, S. C.

T. G. Rayfield has been appointed assistant to the superintendent of the spinning department of the Mills Mill, Greenville, S. C.

Johnny Burton, formerly of Calhoun Falls, S. C., has become superintendent of the spooling, winding and warping departments of the Mooresville (N. C.) Cotton Mills.

Benj. F. Berman, of Cincinnati, Ohio, treasurer of the Stonewall Mills, Stonewall, Miss., is to be married on April 8th to Miss Vivienne Barnton, of Houston, Tex.

Sam D. Tridmore has resigned as overseer of weaving at the Carter Fabrics Corp., South Boston, Va., to accept a similar position with Abbeville Mills, Abbeville, S. C.

John Tillett, treasurer of the Leaksville Woolen Mills, has been named a member of the Charlotte, N. C., Housing Authority by Mayor Ben Douglas.

E. S. Cunningham has been elected president of the Dallas (Tex.) Cotton Mills, succeeding W. B. Marsh, resigned.

Ralph B. Hood, for the past three years a consulting engineer in New York, has accepted a position as assistant to J. B. Harris, of Greenwood, S. C., vice-president of the Mathews Cotton Mills, the Greenwood Cotton Mills, and the Ninety-Six Cotton Mills.

Joe Guinane is superintendent and B. Baumgardner is assistant superintendent of the Clay County Products Co., full-fashioned hosiery manufacturers at Green Cove Springs, Fla.

Dean H. H. Willis, of Clemson College Textile School, was recently appointed a member of the program committee for the textile division of the American Society of Mechanical Engineers.

Fred Hahn, who has been connected with the Chicago office of the Riverside & Dan River Cotton Mills, has been appointed manager of the new office of the company to be opened in St. Louis, Mo.

F. R. Gregory has resigned as overseer of spinning, spooling and warping at the Cutter Mfg. Co., Rock Hill, S. C., to accept a similar position with the Highland Park Mfg. Co., Charlotte, N. C.

Marchant Cottingham, son of A. H. Cottingham, general manager of the Victor-Monaghan textile mill chain, has been named assistant superintendent of the Inman Mills, Inman, S. C. He is a Clemson College graduate in textile engineering.

Harold A. Deal, of Cornelius, N. C., has succeeded W. B. Morgan as superintendent of the Florence Cotton Mills, Forest City, N. C. Mr. Deal was graduated from the Textile School of the North Carolina State College at Raleigh, and was formerly connected with the Judson Mills, Greenville, S. C.

Changes At Callaway Mills

Callaway Mills of LaGrange, Ga., announced the following resignations, transfers and promotions to become effective April 1st:

W. A. Drisler, of the Industrial Fabric Division, New York office, resigned to accept position of vice-president and sales manager of the Pond Lily Co., New Haven, Conn.

Frank S. Graves transferred from sales manager Valway Division to Industrial Fabric Division in New York.

Marshall R. Abbott of the Boston office transferred to inactive duty, subject to call.

C. J. White, Jr., transferred from Chief Engineer in LaGrange to the Industrial Fabric Division, New York office.

W. C. Farley transferred from Consumer Division to Industrial Fabric Division, New York office.

Howard Marsh of the New York office transferred to inactive duty, subject to call.

Harold H. Barnard promoted to New York Manager Industrial Fabric Division.

Elliott Fulton of Chicago office transferred to New York office to become sales manager Valway Division.

R. E. McTigue, formerly in LaGrange sales office, becomes personnel director of the company.

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HOUGHTON WOOL TOPS

Prompt Shipment All Grades on Short Notice

Suitable for Blends with Rayon or Cotton

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Write or Phone Our Southern Representative

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Jacquard Board—Beaming Paper
Toilet Tissues
Twines—Wrapping Paper—Boxes, etc.

DILLARD PAPER CO.
GREENSBORO, N. C.
CHARLOTTE, N. C. GREENVILLE, S.C.

US

WE DO BETTER THAN
JUST KEEP PROMISES!

One of our customers wrote us recently: "You promised that we would receive the shipment of spools on Tuesday - - you delivered them on Monday! This saved us a full day on producing a special order. Thanks for your co-operation!"

A Satisfied Customer

SATISFACTION
GUARANTEED

US BOBBIN & SHUTTLE CO

GREENVILLE, S. C.
Charlotte, N. C. Johnson City, Tenn.
ALABAMA AGENT: Young & Vann Supply Co.
Birmingham, Ala.
CHICAGO AGENT: Albert R. Breen
80 E. Jackson Blvd.

Donald Comer Heads Work On Alabama's Ten-Year Economic Plan

Montgomery, Ala.—Donald Comer, president of Avondale Mills, has been placed in charge of organization work in Alabama to carry out the ten-year plan of economic development formulated by the Southern Governors' Conference.

Governor Dixon, who announced Mr. Comer has accepted the appointment, said he would attend a meeting of the Governors' Conference March 26th-27th at Charleston, S. C., when plans for furthering the ten-year program will be discussed.

Webb Durham To Be Sales Manager For Foster Machine Co.

T. E. Connor, sales manager of the Foster Machine Co. for several years, will retire May 1st and will be succeeded by Webb Durham, who is now Southern manager for the company. Mr. Durham will reside at Westfield, Mass., where the company's works are located, changing from his present residence at LaGrange, Ga.

Mr. Connor, who is also vice-president and assistant treasurer, will continue with the company but in a less active capacity.

The company will continue to be directly represented in a sales capacity in the South by Edward C. Connor, at the Southern office, 1314 Johnston Building, Charlotte, N. C., and in the Atlanta territory by Fred P. Brooks, 406 South Candler street, Decatur, Ga.

Mr. Durham, whose connection with the textile industry has been mainly in the Southern States and now will include the entire textile field, will continue to keep in close touch with Southern textile mills and his many Southern friends.

Promotions Are Made in Cannon Mills Organization

A number of promotions in carding and spinning departments of Cannon Mills plants were reported recently by Superintendent Ray Holshouser.

Ben Lambeth, Jr., assistant night superintendent at Plant No. 1 in Kannapolis, was transferred to Plant No. 7 at Salisbury as general night superintendent. He replaces Ernest Bolick, who was appointed general superintendent of Central Mills, at Central, S. C.

Brandon Payne, night overseer of No. 2 card room at Plant No. 1, was promoted to assistant night superintendent, succeeding Mr. Lambeth.

E. H. Warren, first shift second hand in No. 4 card room at Plant No. 1, succeeded Payne in No. 2 card room.

Messrs. Holshouser, Lambeth, Bolick, Payne and Warren are all graduates of the Textile School of North Carolina State College.

Alabama Mills Announce Unit Personnel Changes

Birmingham, Ala.—The Alabama Mills, Inc., operating units at Aliceville, Clanton, Dadeville, Fayette, Greenville, Haleyville, Jasper, Russellville, Winfield, and Wetumpka, all in Alabama, has announced the following personnel changes:

R. W. Hollis has been transferred from the superintendency of the unit at Aliceville to the superintendency of the unit at Russellville, being succeeded by W. N. Scroggins, formerly overseer of the weaving department of the Aliceville unit, Norman Yarborough was promoted to head of the weaving department of the Aliceville unit, succeeding Mr. Scroggins. W. D. Hall, Jr., has accepted the position of superintendent of the designing department of the unit at Aliceville.

Homer Roberts has been transferred from the position of superintendent of the unit at Clanton to the superintendency of the unit at Wetumpka, being succeeded by J. L. King as superintendent of the unit at Clanton. B. L. Moncrief has been promoted to superintendent of the weaving department of the unit at Wetumpka and R. L. Alford has been promoted to superintendent of the weaving department of the unit at Clanton.

P. A. Redmond, Jr., is designer for the Clanton unit.

The announcements were made by A. H. Randall, general superintendent of the units of the Alabama Mills, Inc. P. A. Redmond is president of this group of mills.

Ten Garages and Five Autos Burn At Pacolet Mills

Pacolet, S. C.—Ten frame garages and five automobiles owned by textile employees burned recently near Pacolet Mills with the loss estimated at several thousand dollars.

The Pacolet Mills fire department was called out when the fire was discovered and succeeded in preventing the flames from spreading to six of the 16 garages in the row of buildings. Five automobiles also were removed from the blazing structures without damage.

Child Saved By Fortunate Circumstances

Robert Ragan, 20-months-old son of Caldwell Ragan, president of the Ragan Spinning Mills, Gastonia, N. C., is alive today because of a fortunate chain of circumstances.

While playing with his bosom pal, a fox terrior named "Snip," he fell into a lilly pond in the sunken garden in the rear of the Ragan home. "Snip" barked so furiously that a colored nurse was summoned and found him. The nurse, who was a college graduate, had studied life saving and administered artificial respiration until a doctor arrived and between them life was restored to the child.

Girl Drowns Self At Tucapau

Miss Wilbur Lucille Henderson, 25, employee of the Startex Mill at Tucapau, S. C., and a member of a well-known family of the Tucapau community, was drowned Friday, March 22nd, in waters of the mill pond. A spectator said he saw the young woman leap into the mill pond at a point near the dam, where the water is about 15 feet in depth.

OBITUARY

CLAUDE W. McSWAIN

Washington, D. C.—Claude W. McSwain, 58, scheduled to be one of the section leaders in the Cotton Processing Division of the Southern Regional Research Laboratory, died of a heart attack on March 12th.

Some of the positions held by Mr. McSwain during his life were with Whittier Mills, Chattahoochee, Ga.; Clemson College; Industrial High School, Columbus, Ga.; Parker School District, Greenville, S. C.; Steel Heddle Mfg. Co.; Victor-Monaghan Co., Greenville, S. C.; Pendleton Mfg. Co., LaFrance, S. C.; and agent in Cotton Utilization Research Division.

N. B. MILLS

Statesville, N. C.—N. B. Mills, 86, pioneer textile manufacturer, died March 19th at his home here. He had been in declining health for two years, and had been critically ill since he suffered a heart attack a few weeks ago.

Mr. Mills was engaged in the mercantile business in Statesville for a number of years before he went into the cotton manufacturing business. He organized the Brookfield Mill 40 years ago and later the Paola Mill.

H. W. CARROLL

Spartanburg, S. C.—H. W. Carroll, 74, for many years a member of the board of directors of Marlboro Cotton Mills and widely known in textile circles, is dead. He was identified with numerous business enterprises and took an active interest in civic and religious affairs. Surviving are his widow and eight children. Burial was in the cemetery at Bennettsville.

A. W. SKINKLE

Tryon, N .C.—Arthur W. Skinkle, 60, superintendent of the warp mercerizing division of the Southern Mercerizing Co.'s plant here, died March 17th at a local hospital after an operation.

Mr. Skinkle came to Tryon four years ago from New Bedford, where he had been connected for 30 years with the Holmes Cotton Mills. He was a graduate and later an instructor in the Massachusetts Nautical School of New Bedford.

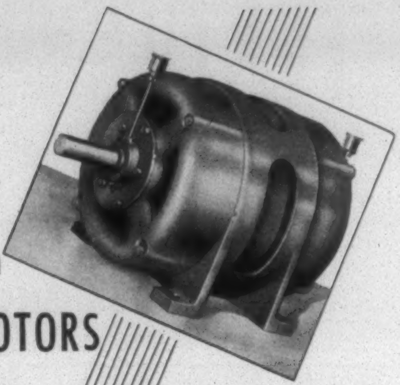
FREDERIC L. BABCOCK

Cambridge, Mass.—Frederic Latimer Babcock, 73, of Arlington, owner-editor of *Fibre and Fabric*, textile weekly, died at a hospital here March 21st.

A native of Old Lyme, Conn., he bought the publication 25 years ago.

M. E. STEVENS

East Point, Ga.—M. E. Stevens, 75, formerly a well known cotton mill superintendent, but in recent years an East Point chemical company executive, died recently in Miami, Fla. Mr. Stevens was for a number of years superintendent of the Columbus Mfg. Co., of Columbus, Ga. At the time of his death he operated his own chemical company. Burial was in Riverdale Cemetery, Columbus, Ga.



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Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

Office Edition of Directory

We recently completed the Fifty-sixth Edition of Clark's Directory of Southern Textile Mills, having published it on January 1st and July 1st of each year beginning with July 1st, 1912. For 28 years we have published the Directory twice each year and in pocket size.

During the years when the textile industry was growing and new mills were constantly being added, a semi-annual edition was needed by salesmen but we have concluded that in the future an annual edition will meet all requirements.

Beginning July 1st, 1940, Clark's Directory of Southern Textile Mills will be published once each year, but in addition to the usual pocket size edition we shall also publish an office edition combined with a buyers' guide and a textile information section.

It will be known as Office Edition of CLARK'S DIRECTORY OF TEXTILE MILLS and BUYERS' GUIDE TO EQUIPMENT AND SUPPLIES FOR TEXTILE MILLS, and a copy will be sent, free of charge, to every textile plant in the South, other than knitting mills.

The Buyers' Guide section will classify alphabetically all of the articles which a textile mill needs to purchase and under each heading will be placed the names of manufacturers of such articles together with office address and telephone number.

The Textile Information Section will contain many tables which will be found useful to mill officials.

We believe that an annual edition of our pocket size Directory will answer the needs of salesmen and that by publishing an office edition combined with a "Buyers' Guide to Equipment and Supplies for Textile Mills" we will supply the mills with something which they can use to considerable advantage.

Carded Yarn Group

Prices of most carded yarns have declined to a point below their cost of manufacture and nobody is to blame except certain of the manufacturers of such yarns.

The Carded Yarn Group has during the past two years had fine leadership and a very efficient secretary and by co-operation worked itself out of the depression which had, for carded yarn mills, lasted many years.

We have watched the carded yarn mill group for more than forty years and do not hesitate to say that they are most unfortunate, in that there are always in their ranks persons who are unreliable and who will, upon the slightest pretext, violate agreements to which they have solemnly obligated themselves.

We have seen some of the worst offenders pass on, only to find their places filled by others with an equal disregard for obligations.

A small margin of profit seems to always be the signal for an immediate stepping up of production and very soon efforts, to sell the excessive supply, force prices to a no profit basis.

It seems that very few carded yarn manufacturers are capable of taking a broad viewpoint or of seeing beyond their own mill.

The minute that there is a margin of profit, they put, upon a sheet of paper, figures which show a greater profit by operating two or three shifts and it seems that few are mentally capable of realizing that the excess production will reduce the prices of yarns and destroy the profit picture as displayed by the figures they made.

Managers of carded yarn mills could by dealing honestly with each other, in regulating production, place their division upon a profitable basis and it is hoped that they will return to the sanity and co-operation which only a short time ago brought profits after many lean years during which co-operation and regard for agreements was absent.

Capital Goods Expenditures

In an article contributed to an industrial edition of the *New York Sun,* Professor Fairchild says:

"The great economist, Marshall, sets it down as a fact that the increase of the national income 'depends on the continued progress of invention and the accumulation of expensive appliances for production.'

* * *

"Colonel Ayres states that every time the capital goods industries hire two new workers the consumption goods industries have to hire three new workers.

* * *

"Dr. Moulton states that the expansion of capital necessary to replace depreciated and obsolescent plant and equipment is sufficient alone to absorb all our present unemployment.

* * *

"A convincing majority of the authorities holds that stimulation of the production of capital goods is essential to recovery. By capital goods is meant machinery, tools, buildings and new products. The money to produce these comes from the savings of the people. It is the money which they wish to invest rather than consume at once."

* * *

From the table compiled by Professor Fairchild we give the figures for new plant, equipment and housing from 1926 to 1929.

Year	Total	Plant and Equipment	Housing Construction
1926	$13,868,000,000	$9,030,000,000	$4,838,000,000
1927	13,330,000,000	8,685,000,000	4,645,000,000
1928	13,102,000,000	8,747,000,000	4,355,000,000
1929	13,208,000,000	10,014,000,000	3,194,000,000

The "Priming of the Pump" was supposed to bring back similar expenditures of capital goods, but the following are the figures for 1935 to 1938:

Year	Total	Plant and Equipment	Housing Construction
1935	$5,146,000,000	$4,333,000,000	$813,000,000
1936	7,296,000,000	5,922,000,000	1,374,000,000
1937	9,123,000,000	7,405,000,000	1,718,000,000
1938	6,969,000,000	5,375,000,000	1,594,000,000

Second Annual Golf Tournament

In answer to several inquiries, we wish to state that Second Annual Textile Golf Tournament will be held at the Carolina Golf Club, Charlotte, N. C., on Saturday, June 1st, and Sunday, June 2nd.

Those who desire to enter will be allowed to qualify on Saturday, May 25th, Thursday, May 30th (National Memorial Day), or Friday, May 31st.

Those who qualify will be divided into flights of eight. The first round will be played Saturday morning, June 1st, the second round Saturday afternoon and the finals on Sunday, June 2nd.

There will be separate divisions for mill men and for salesmen, but they may qualify together and in match play two mill men will play their matches accompanied by two salesmen who will be playing their matches.

There will be handsome prizes in all flights for mill men and all flights for salesmen.

There will be a cup for the lowest total score made by a mill team of four players. Last year there were six mill teams entered and the cup was won by the team of the American Yarn & Processing Co., Mt. Holly, N. C. There will also be several special prizes for individual feats such as the smallest number of putts, etc.

Sixty-eight mill men and thirty-seven salesmen entered the first Southern Textile Tournament held June 9th and 10th, 1939, and they ranged from mill presidents to doffer boys. The top prize was won by a winding room hand who defeated a loom fixer in the finals.

It is estimated that more than two hundred mill men and salesmen will enter the coming tournament. The tournament fee will be $2.00 and will cover all charges except caddie fees.

Private Industry

In this age when private industry is condemned and when people are being taught that all industries should be taxed to the limit of their ability to pay, it is enlightening to glance at the record of the Springs Cotton Mills as set out in Christmas Souvenirs sent out by President Elliott White Springs.

Fifty years ago the maternal grandfather of President Springs, a veteran of the Confederate Army, built a mill of 200 looms at Fort Mill, S. C., and that was the beginning of the present chain which has approximately 500,000 spindles and more than 13,000 looms.

During this half century period the Springs mills have paid the farmer $45,590,512.10 for cotton; the Federal Government, the State of South Carolina, the respective counties, municipalities, and school districts a total of $7,862,198.37 in taxes; for wages and salaries, $28,864,097.62; and for wages and salaries to affiliated staffs, $2,876,781.41. And during these years a total of 1,351,680,000 yards of cloth has been manufactured by the seven Springs plants.

Under private industry, workers have received $28,864,000, but those who now rule at Washington wish to discourage such enterprises.

Mill News

LAURENS, S. C.—At a cost of $15,000, a new office building and store have been constructed by the Watts Mills here. A heating plant for the new offices and community house has also been completed.

PITTSBORO, N. C.—Plans are being made here by the J. M. Odell Mfg. Co. for construction of a new hydro-electric plant of 800 horsepower. The development will include a new water wheel and governor, generator and switchboard, head and sluice gates.

ELLENBORO, N. C.—Plans are reported to be under way here for the resumption of operations of the plant of the Queen Anne Mills Co. under the common stockholders. It is stated here that the mills have been operating under proceedings for reorganization, which were filed some time ago.

LAGRANGE, GA.—Work is said to be going forward here at the Elm City unit of the Callaway Mills on the construction of an addition which will measure 70 by 83 feet. The new addition will be used for the expansion of the bleachery, and the work will be pushed as rapidly as possible.

GREENSBORO, N. C.—The Revolution Cotton Mills, a unit of the mills here operated by the Cone interests, has installed much new machinery in an extensive modernization program. In the opening and picking departments all of the old equipment has been replaced with the most modern type of new machinery. The former opening room is now being used as a warehouse, and the entire opening, blending and cleaning equipment has been replaced in the space formerly occupied by the old pickers.

CHARLOTTESVILLE, VA.—Charlottesville Woolen Mills, for the year ended December 31, 1939, reports net profit of $28,506, after taxes, as compared with $60,599 net profit in 1938. Sales for the year totaled $575,692, against $586,464 in 1938.

Current assets December 31, 1939, totaled $462,525, including $61,639 cash and $344,311 inventory, while current liabilities totaled $56,677. This compares with current assets of $402,407, $100,897 cash, $272,327 inventory and current liabilities of $15,599 on December 31, 1938.

TAYLORS, S. C.—J. E. Sirrine & Co., textile engineers of Greenville, S. C., have prepared plans for a $50,000 addition to the bleachery division of the Southern Bleachery & Print Works, according to announcement made by Harry R. Stephenson, president of the company. This means that another floor will be added to the division for use as a packing room. The company does not plant to increase the plant's capacity, but will rather take care of needs that have been felt for some time.

DRAYTON, S. C.—The Drayton Mills have completed the construction of a new opening room. The new building measures 56 by 76 feet. Work on an addition to the general offices of the company has also been completed. This addition measures 33 by 39 feet. Lockwood Greene Engineers, Inc., prepared the plans for the building program.

LURAY, VA.—Bids on a proposed textile plant at Luray will be taken by the Chamber of Commerce at 11 A. M., April 8th, on the authority of Schwarzenbach Huber Co., New York, which will operate the plant with its machinery.

The sale of second mortgage bonds for building operations and real estate is progressing, according to representatives of the Chamber of Commerce, who expected the drive for the $25,000 second mortgage to be completed next week.

LANDIS, N. C.—At the Corriher Cotton Mills, work has been under way on the installation of approximately $35,000 wort hof new equipment. The company is engaged in the manufacture of yarns, and when the new machinery is all ready for operations, the capacity of the plant will be doubled. It was announced here that the company recently completed the constructtion of a building which measures 102 by 175 feet, two stories, which contains 40,000 square feet of floor space. Eighty cards and approximately 8,000 additional spindles are included in the new machinery setup.

BARNESVILLE, GA.—An addition containing 6,000 square feet of floor space has been constructed by the William Carter Mfg. Co. This addition was designed to furnish additional floor space which will be used for the finishing department. This company is engaged in the manufacture of knit underwear and foundation garments.

R. J. Woodlee, agent for the mill, announces that the expansion program will provide sufficient expansion space for the company to employ additional operatives. The company now maintains an operating personnel of 335.

GREENVILLE, S. C.—A modernization program has been completed at the Woodside Cotton Mills here, which included the complete re-equipping of the slasher room. New equipment was installed in this department including three two-ylinder slashers, two cooking kettles and one storage kettle. This comprises the machine equipment in this department. It was announced here that all temperatures are controlled automatically by instruments and the entire room has had its efficiency increased through the kettle rearrangement, the installation of improved venting of the slasher hoods, new size-handling methods and the training of the operating personnel.

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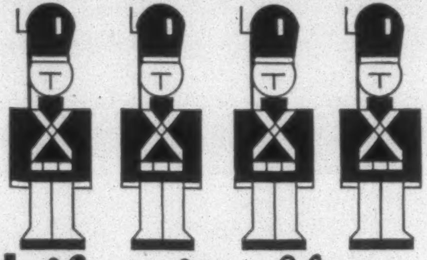

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11-Million Bale Yield Of Cotton in 1939 Reported

Washington, D. C.—The Census Bureau announced in its final ginning report of the 1939-40 season that the 1939 cotton crop totaled 11,812,281 equivalent 500-pound bales of lint cotton. The Agriculture Department estimated 11,792,000 bales for the crop last December.

The final figures compare with 11,944,340 bales in the 1938 crop and 18,945,028 bales in 1937 crop, which was a record.

The census reported 11,477,133 running bales, counting 175,140 round bales as half bales, were ginned during the season, compared with 11,623,221 and 157 crop last December.

The final figures compare with 11,944,340 bales in the 1938 crop and 18,945,028 bales in 1937 crop, which was a record.

The census reported 11,477,133 running bales, counting 175,140 round bales as half bales, were ginned during the season, compared with 11,623,221 and 157,979 in the 1938 crop, and 18,252,075 and 326,742 in the 1937 crop.

The average gross weight of the bale for the crop, counting round as half bales, was 514.6 pounds, compared with 513.8 pounds for 1938, and 519.0 for 1937.

American-Egyptian cotton included totaled 26,824 bales, compared with 20,503 in the 1938 crop, and 10,991 in the 1937 crop.

Sea Island cotton included totaled 2,170 bales, compared with 4,300 in 1938 crop and 4,030 in 1937 crop.

The number of ginneries operated for the 1939 crop was 11,884, compared with 12,279 for the 1938 crop, and 12,838 for the 1937 crop.

Ginnings of the 1939 crop by States, in equivalent 500-pound bales, follow:

Alabama, 781,539; Arizona, 202,486; Arkansas, 1,421,688; California, 442,283; Florida, 9,017; Georgia, 920,053; Illinois, 4,360; Kentucky, 12,631; Louisiana, 744,887; Mississippi, 1,584,688; Missouri, 428,393; New Mexico, 95,263; North Carolina, 460,174; Oklahoma, 517,315; South Carolina, 873,141; Tennessee, 445,272; Texas, 2,856,806; Virginia, 10,285.

DuPont Reported Investigating Plant Sites in Virginia

Radford, Va.—Although speculations continues rife, nothing official has been given out thus far regarding rumored industrial development of Pulaski County farm land being purchased along New River in what is known as the horseshoe section near here.

E. I. du Pont de Nemours & Co. has engineers and industrial experts engaged in a survey and study of three sections of the South seeking plant sites.

It is considered likely that one of these sites may be used for an additional nylon plant. Since the announcement recently that options were being exercised on several thousand acres of Pulaski County land there has been considerable speculations in regard to its use.

Reports during the past few days, none of which were official, have been received here that explosives, chemicals or nylon would be manufactured in the county.

It is understood that options, not taken up before March 13th, have been extended until early in June.

Finishing Agent Has Anti-Static Quality Is Report

The property of killing static in acetate rayon fabrics has been found to be one of the characteristics of "Avitex" R, one of the higher fatty alcohol sulphates used for finishing and made by the Fine Chemicals Division of E. I. du Pont de Nemours & Co., Inc.

This finishing material, which is primarily a softener for rayon fabrics, can be applied to fabrics, yarns or staple fibers. The fact that it is an effective anti-static finish is important in acetate rayon, which often in manufacturing processes builds up a fairly high charge. In wear, acetate rayon fabrics, particularly such items as slips and undergarments, are inclined to build up static, this often being considered a shortcoming from the consumer point of view.

Another advantage held for this softener is that it eliminates odor, which frequently comes in knit garments from deterioration of the oils used in knitting. This element of odor has been a point about which retail store underwear buyers have often complained. Furthermore, the use of this type of finishing prevents a yellowing of rayons, which is often caused by changes in the older types of finishing material.

It is stated that this form of "Avitex" exhausts quite rapidly from solution on viscose process rayon, cellulose acetate rayon and cotton fibers. It may be applied in the rinse or from a padding machine.

Data on its behavior in connection with vinyl polymer resins used for textile yarns is not yet available.

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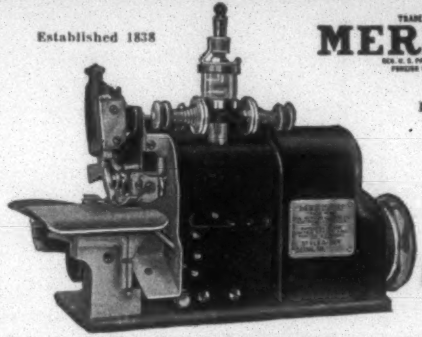

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Gaston County Division Discusses Electrical Equipment

(*Continued from Page 12*)

Low Air Pressure for Cleaning Motors

In cleaning motors, an air pressure on the cleaning pipe of 15 pounds should be sufficient, because that will remove all of the lint and foreign matter that is not stuck with oil. Where the lint is tightly stuck with oil, it will not be blown out with air pressure, regardless of the pressure.

Controls should be checked about once a month, and it is most important to keep them clean. It is not a bad idea to deliberately single phase a motor from time to time to determine whether or not the protective equipment is operating properly to protect it. Lock nuts and bushings should be checked to be sure that they are tight at the point where they enter control boxes.

Forty per cent of motor failures are caused by defective bearings, and there is little excuse for this if the bearings are regularly and properly inspected. An instance was cited wherein a motor in a Southern textile mill ran for 30 years without any replacement of bearings. While lack of oil is the most prevalent reason for worn bearings, it is also possible to over-oil a bearing to such an extent that the oil gets onto the windings, and causes the varnish to break down. Another point to watch in oiling is to be sure and not use too heavy oil. Heavy oil will cause a bearing to generate heat, and the lubricating value of such oil is lowered.

Care of Ball Bearings

Where ball bearings are used on motors, it is often found that the bearings fail because of total lack of oiling or greasing. On the other hand, excessive greasing or oiling may be just as bad, because when the bearing is overpacked it will generate heat and cause failure of the balls, followed by burn-out of the motor. It is a good idea, when greasing ball bearings, to leave the bottom plug out, forcing grease in until all discolored grease is forced out, letting the motor run until no more dripping occurs, then closing plug. This is sufficient to properly maintain ball bearings.

Improper fit is another reason for failure of ball bearings, and it is most important to see that they are fitted properly when installed. All bearings must have a clearance of some ten-thousandth, and when a bearing is forced onto a shaft too tightly, it will likely fail long before its normal life. The outer race of a ball bearing should be loose enough to revolve one or two turns in the course of a year.

A question was raised about humidifier motors failing to start up properly after the humidifiers were cleaned. Mr. Seibert judged that this was the result of loose connections, causing single phase, rotor bars loose, or more probably the bottom bearing being bad from lack of oiling. The bottom bearing of humidifier motors are a little hard to get to for oiling, and are frequently neglected as a result.

A mill should be equipped with a thermometer for checking the actual temperature of motors and bearings, because it is frequently the case that one man's opinion of a hot motor is entirely different from another's, whose hand might have been toughtened from contact with many hot objects. A good thermometer is an impartial judge, and may be depended on to properly determine the actual heat of a motor or bearing.

As to the advisability of using ball or sleeve bearings on motors, there is some question, and the facilities of the individual plant must be considered. Sleeve bearings are easier to install, and are less expensive, if properly cared for. In many cases, ball bearings are definitely superior if properly installed, and may result in a saving to the mill. Ball bearings are always much easier to get started into operation than sleeve bearings, after having stood over the week-end. Where waste-packed bearings are used, it is important that they should not be over-oiled; three times a year should be sufficient for oiling under ordinary operating conditions. An oil of from 100 to 200 Saybolt viscosity at 100 degrees should be used on motors, using the lightest oil that will give sufficient protection to the bearings.

When using the oiling system for motors where a glass reservoir contains a visible supply of oil, the entry for the oil should be on the side away from the pull of the bearing. In other words, the oil should enter the bearing away from the tight side.

In a plant where there is a large number of motors, a cleaning program to get over the entire plant every two years is very valuable, having been proven so in actual practice. Motors should be taken down, inspected thoroughly, and any deficiencies corrected; then they should be revarnished with a good varnish and thoroughly baked. Windings should be cleaned with carbon-tetrachloride, shafting and bearings checked, rotors checked, etc.

When motor trouble develops, or motors have to be rewound, the work should be done by a reliable concern; not one that is here today and gone tomorrow. Proper equipment and trained personnel is essential in motor repair work, and shoddy work will be more costly in the long run, no matter how cheap the first cost. Motors are built for a definite number of turns in the windings, and for a definite size of wire, and if winding is done by irresponsible persons it is possible that this factor will not be properly considered, and the motor will shortly fail again.

Again it was stated that the use of glass insulation for motors depended upon the life of the varnish employed, and glass does not take to some varnishes as well as cotton. Cotton fibers will become permeated with the varnish, while glass will merely become coated with it, and it is unlikely that glass will ever supplant cotton for insulation on motors for normal operations.

Following Mr. Seibert's talk there were several announcements and introductions made, and the meeting adjourned.

Correction

In the issue of March 1st, it was noted that Lester Rankin had joined A. B. Carter, Inc., of Gastonia. Mr. Rankin's name is Lamar, and not Lester, and he has taken over the territory formerly covered by K. W. Bumgardner.

Falls From Mill Smokestack

Anderson, S. C.—A rather miraculous escape from death was the experience of William Morris, Newark (N. J.) painter, who dropped 50 feet from the smomestack of the Appleton Mills while engaged in working on the stack.

Attaches of the Anderson County Hospital, to which institution he was rushed immediately after the accident, said that he appeared in no immediate danger, although he suffered a series of fractures.

Morris was attempting to descend from the smokestack for his lunch when the swing on which he was sitting got out of control and started downward at a rate of speed that he could not control with the safety rope with which the heavy swing is lowered to the ground.

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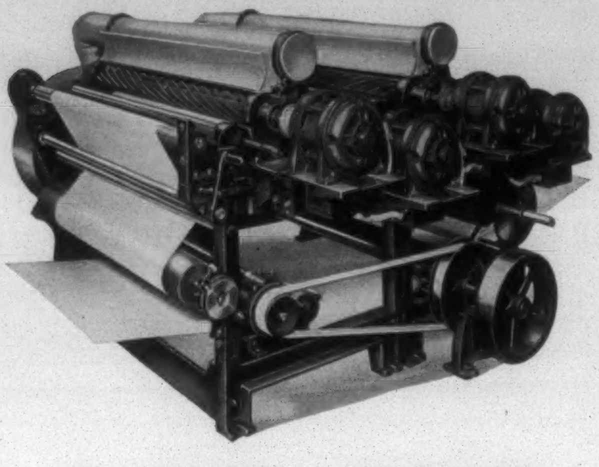

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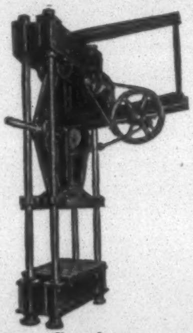

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Onyx Publishes Booklet On "Xynomines"

The Onyx Oil & Chemical Co., Jersey City, N. J., has just published a 36-page booklet by Dr. Hugh H. Mosher on "The Xynomines," which are described as Sulphated Boro Amide Esters of Aliphatic Compounds, containing between 12 and 18 carbon atoms.

This booklet, containing 14 pages of illustrations and graphs, gives very comprehensive and complete explanation of the composition of the Xynomines, as well as the various uses, action under various conditions and with various materials, etc.

Of interest to the knitting trade are the pages devoted to silk, rayon and wool processing.

The foreword of the booklet is as follows:

"No phase of textile chemistry possesses greater interest to the dyer and textile technician than surface activity and the functions of surface active substances. It is to these substances that detergency, dye levelling and penetration, wetting and emulsification largely depend.

"The explanation of the phenomenon of surface activity is involved and the mechanism by which surface active substances function is not clearly understood. Most text books on physics and physical chemistry content themselves with a mere explanatory description of the subject and the various phases of it. Even though the scientific explanation of the subject is not as yet entirely satisfactory, scientific methods of estimating the various factors involving surface activity have been developed and serve as useful tools in applying surface-actie substances to industrial applications.

A close parallel exists between the action of surface-active chemicals in solution and the action of mineral and lubricating oils on metallic surfaces."

Dayton Rubber To Establish New Industry in Charlotte

The Dayton Rubber Mfg. Co., of Dayton, Ohio, will establish a mechanical rubber products industry in the old McClaren plant in Charlotte within the next 60 days, according to announcement made by A. L. Freedlander, president of the company. The building is now being used in the sale of Dayton and McClaren tires.

Mr. Freedlander visited Charlotte recently and conferred with business men and city officials regarding details relative to the new industry. Accompanying him were Leo Weill, of Vienna, Austria; Heins Rollman, of Brussels, Belgium, and J. O. Cole, of Dayton.

The new rubber products, the exact nature of which is being kept secret, will be manufactured in this city through processes known to only a half dozen factories in Europe, it was explained by Mr. Freedlander. The finances are being brought to the United States from London and Paris and already large deposits have been made in the Chase National Bank of New York City, it was said.

The Dayton Rubber Mfg. Co. are large manufacturers of mechanical rubber goods for the textile industry, including the well-known line of "blue label" loom supplies, and V-belts. It is understood that these products will also be manufactured at the Charlotte plant, as well as at Dayton, when the new industry is established here.

MASTER MECHANICS' SECTION

Power Factor and Its Improvement*

Part II

The first portion of this paper was published in the March 1st issue, and covered such subjects as the explanation of power factor, power factor improvement, rating of capacitors, power factor adjustment rates, location of capacitors, etc.

Examples of Application Calculations

A large manufacturer of cereal products in New York State.

Load Conditions and Capacitor Calculations

Average monthly kw-hr, 363,600
15-minute peak kw, 856
15-minute peak kva, 1440
Power factor, 60%
Electric power rate.
  Demand charge, $1.20 per kva, 1st 300 kva
  Demand charge, $0.75 per kva, next 1700 kva
  Demand charge, $0.50 per kva, all over 2000 kva
  Energy charge, $0.011 per kw-hr, 1st 90,000 kw-hr
  Energy charge, $0.007 per kw-hr, all over 90,000 kw-hr

ANALYSIS (PLANT CIRCUITS SHOWN IN FIG. 10)

At first, consideration was given to the possible application of 230-volt capacitors; but the higher cost of 230-volt units and the fact that there was excess transformer capacity and adequate feeder load-carrying ability decided the management in favor of 2300-volt equipment on the primary.

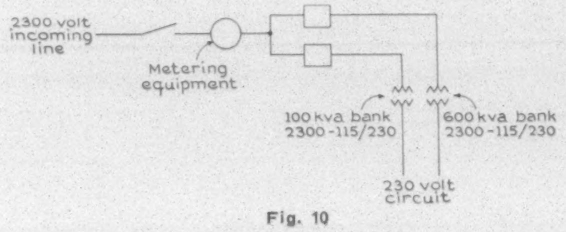


Fig. 10

Lack of indoor space was the factor which indicated that an outdoor unit would work out best, and the exact rating to be installed was determined by reviewing the recommendations in Table 1. The purchaser finally decided on the 855 kva rating in a housing suitable for a total of 1080 kva, thus allowing for 225 kva additional which can be added at any time.

TABLE 1

Capacitor Kva	Resultant P-f	Resultant Kva Demand	Annual Gross Saving	Capacitor Equipment Cost	Per Cent Gross Return	Maximum Rack Space
540	80.7	1060	$3420	$4524.60	73.9	540
630	84.7	1010	3870	5359.90	72.2	720
720	88.2	960	4320	6001.15	71.9	720
855	94.2	910	4770	7151.12	66.8	1080
1080	99.5	862	5202	8293.50	62.7	1080

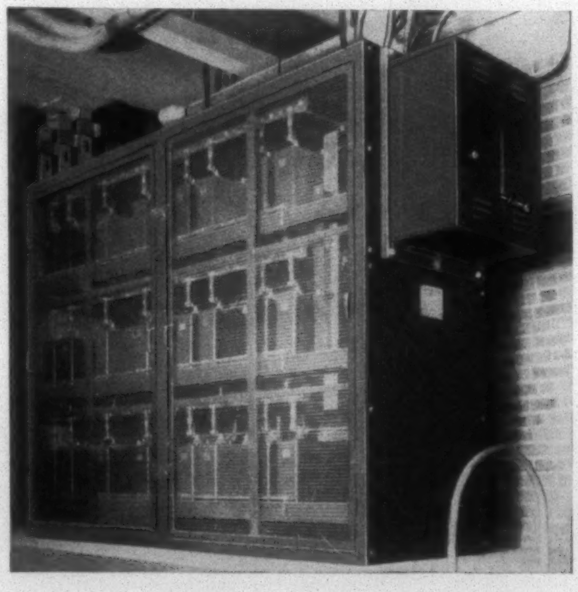


Fig. 11.—A total of 1,080 kva of power-factor-improvement capacity is provided by this large-rack indoor capacitor equipment in a textile mill. Equipment includes an air circuit breaker, at right

Application Cautions

1. *Thermal Protection of Motors*

As described on previous pages, capacitors of relatively small ratings can be effectively applied to the terminals of individual motors. This application, of course, changes the current required by the motor for any given load as well as for any overload. It is therefore necessary to make certain that adequate motor overload protection is still obtained after the capacitors are applied.

---

*Reprinted by permission from a recent General Electric Company bulletin.

It will be necessary in many cases to change the heater units in the motor thermal relays on the basis of the reduced current of the motor-capacitor combination as contrasted with the motor current alone. The proper current rating of the unit to be applied is obtained by multiplying the rated motor current by the rated full-load power factor of the motor, and dividing by the new higher power factor which would be obtained after the addition of the capacitors.

2. *Overvoltages on the Circuit*

The application of capacitors on a circuit generally causes a rise in voltage. Such improvement in voltage is, of course, highly desirable when the circuit is loaded, but overvoltage conditions may exist during lightload periods. Hence, it is usually desirable to switch off part or all of the capacitors when the circuit is not loaded.

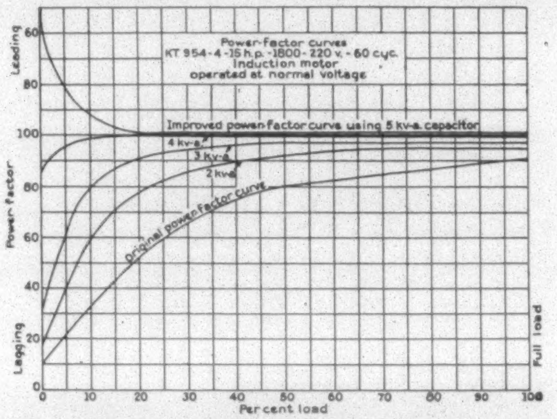


Fig. 13. Effect of capacitor on original power-factor of a 15-hp squirrel-cage motor.

When capacitors are connected to the motor terminals directly and are switched with the motor, it is recommended that the capacitor kva applied to the individual motor terminals be not more than that necessary to improve power-factor to 95%. Capacitor kva in excess of this value may cause excessive voltage to be impressed on the motor during deceleration after the line switch is opened.

3. *Ambient Temperature*

Pyranol capacitor equipments are satisfactory for operation in normal ambient temperatures up to 40 C except for some equipments which may be operated in temperatures up to 46.1 C and others to 50 C. The maximum allowable temperature for any equipment should be checked and unusual temperature conditions, locations with restricted ventilation or proximity to apparatus or other equipment radiating heat, should be referred to the company from which purchased for study and recommendations.

4. *Atmospheric Conditions*

Standard capacitor equipments are naturally designed for normal atmospheric conditions, relatively free from dust, dirt, acid fumes, salt water or flying particles. If the location in which it is proposed that the capacitors be installed is not normal in these respects, it will probably be desirable to make provision for this in the design of the equipment in order to assure satisfactory performance. It may be necessary to furnish dust-tight equipment, or in the case of acid fumes, a special paint finish and special plating of the current-carrying parts.

Calculation of Capacitor Sizes

Where a number of motors are involved, the capacitors, in general, can be applied at three different points on the distribution system, as follows:

A. Directly on the motor terminals.

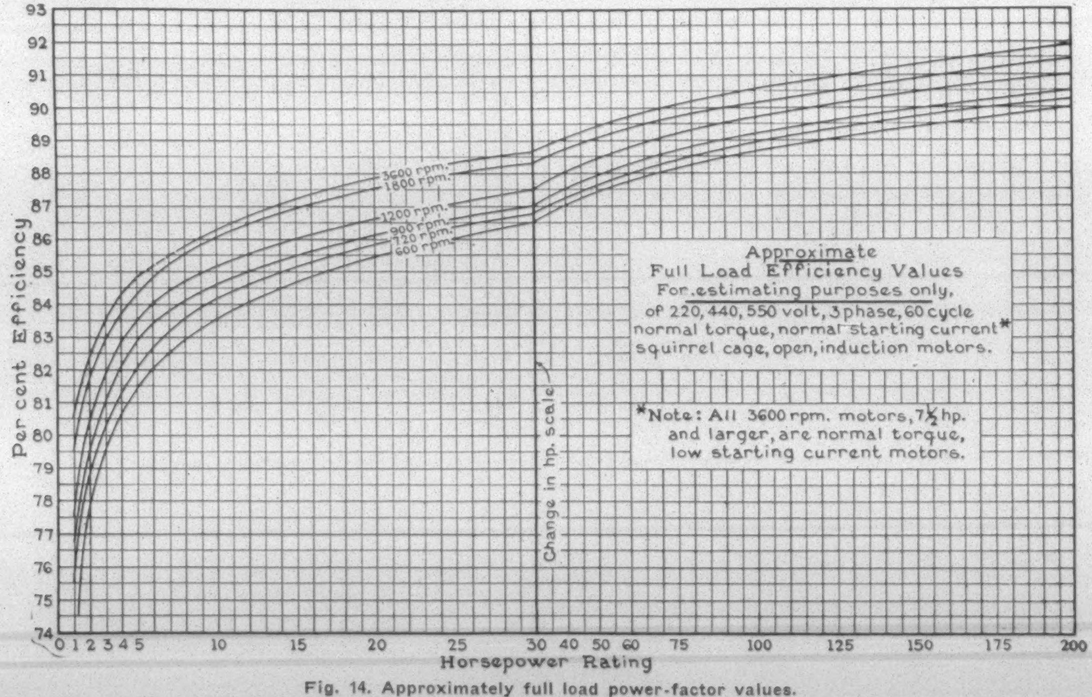


Fig. 14. Approximately full load power-factor values.

B. At the bus.

C. On the primary feeder.

(A) At the Motor Terminals

Before calculating the kva rating of a capacitor to be connected across the terminals of a motor, it is necessary to know the full-load power-factor and efficiency of the motor, as well as the horsepower rating. Figs 14 and 15 have been prepared as a guide in estimating the power-factor and efficiency of the average squirrel-cage motor, regardless of manufacture. They are sufficiently accurate for use in calculating the kva rating of a capacitor to be connected across the motor terminals, since standard capacitors are built only in standard unit kva ratings. It is necessary to know the efficiency and power-factor at full load only, since it will be seen from Figure 13 that the power-factor of a typical motor with a capacitor connected across its terminals remains practically constant except at very light loads. This is because the magnetizing current of the motor remains practically constant. It is the magnetizing current that the capacitor must counteract.

Suppose, for example, it is desired to calculate the size of a capacitor necessary to improve the power-factor of a 10-hp, 900-rpm, squirrel-cage motor to unity. The efficiency for a motor of this rating is found, in Fig. 14 to be 84.6%. The kw input to the motor, then, is

$$\text{kw input} = \frac{\text{hp} \times 0.746}{\text{efficiency}} = \frac{10 \times 0.746}{.846} = 8.82 \text{ kw}$$

The power-factor of the 10-hp, 900-rpm motor is found, in Fig. 15, to be 79.3%. The kva input to the motor is

$$\text{kw input} = \frac{\text{kw input}}{\text{p-f}} = \frac{8.82}{.793} = 11.13 \text{ kva}$$

The lagging reactive kva of the motor is the kva which must be neutralized by the leading reactive kva of the capacitor and is

$$\text{reactive lagging kva} = \sqrt{11.13^2 - 8.82^2} = 6.8 \text{ kva.}$$

Improvement to unity power-factor is, however, seldom economical. Improvement to 95% is more common. For improvement to power-factors other than unity, determine first the leading kva required to correct the motor power-factor to unity, and then, for the same kw input, the reactive kva for improvement from the desired power-factor, say 95%, to unity. Using the 10-hp, 900-rpm motor as an example, it was previously found that 6.8 kva was required to improve the motor power-factor to unity. If improvement to 95% power-factor is desired, the required leading kva can be found by first determining the kva required to improve the power-factor of the motor input, in this case 8.82 kw, from 95% to unity. Using the same formula as before, this is found to be 2.9 kva. The net kva then required to improve a kw input of 8.82 kw at a power-factor of 79.3 to 95% power-factor is 6.8 kva less 2.9 kva, or 3.9 kva.

In calculating the size of capacitor to improve the power-factor of a group of motors to some desired value, such as 95%, the size of capacitors to be connected across the motor terminals is determined separately for each motor, as already outlined. However, it is often more

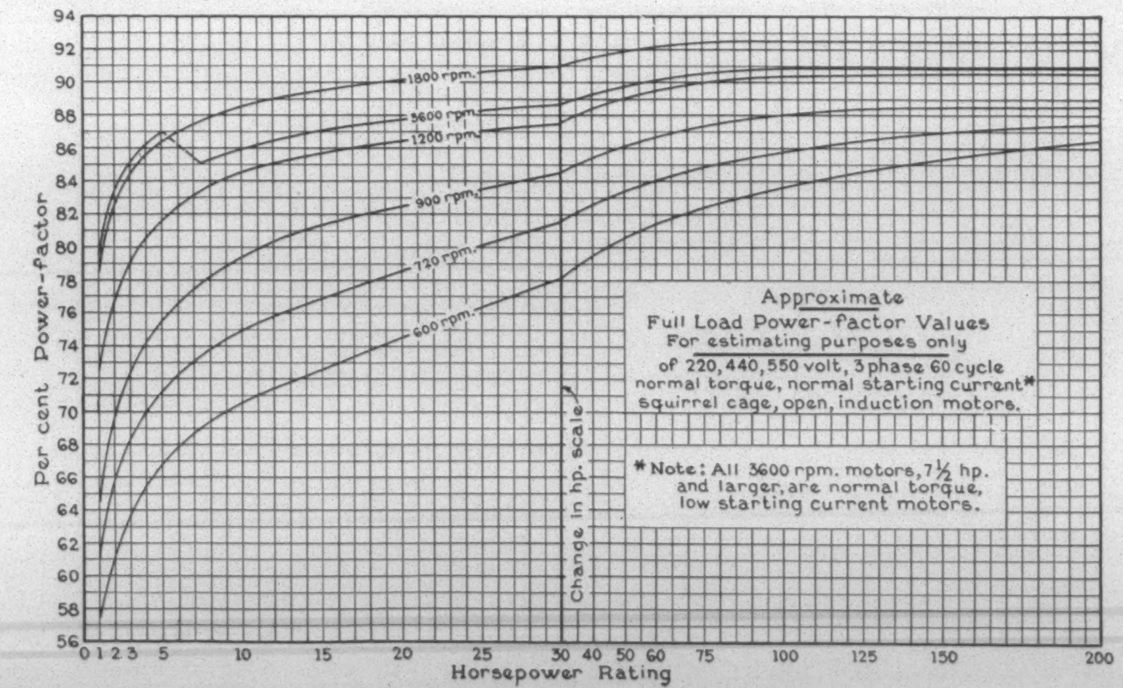


Fig. 15. Approximate full load efficiency values.

economical to install a single capacitor unit on the line that supplies all the motors with power, because it is likely that some motors will be idle, during which time the capacitors connected across their terminals will be of no use in improving the general power-factor of the plant. In cases where this diversity of operation is great, it is better to install a capacitor on the bus that feeds the motors.

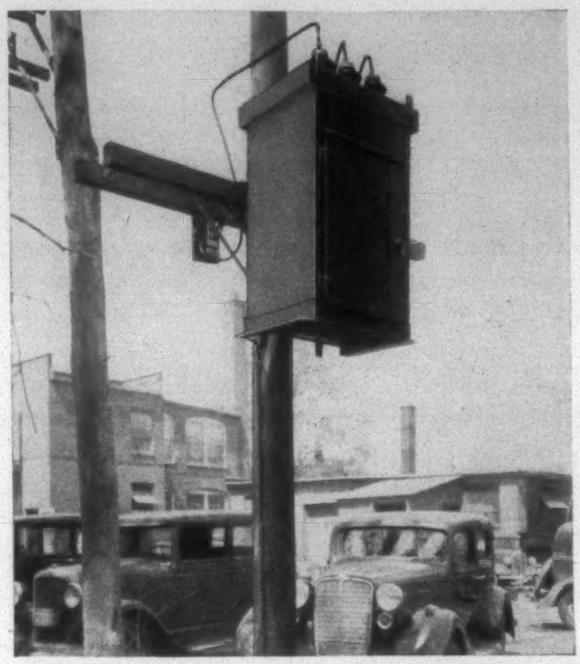


Fig. 12.—Annual savings of $432 in power costs were effected by this 120-kva pole-type Pyranol capacitor

(B) At the Secondary Bus

The size capacitor needed to raise the power-factor of a given load to a higher value can be found as in the following example.

Assume it is desired to raise the power-factor of a 300-kw load from 60% to 90%.

A 300-kw load at 60% power-factor has an apparent load of 300÷0.6, or 500 kva, and has a lagging component of $\sqrt{500^2-300^2}$, or 400 kva.

A 300-kw load at 90% power-factor has an apparent load of 300÷0.9, or 333 kva, and has a lagging component of $\sqrt{333^2-300^2}$, or 145 kva.

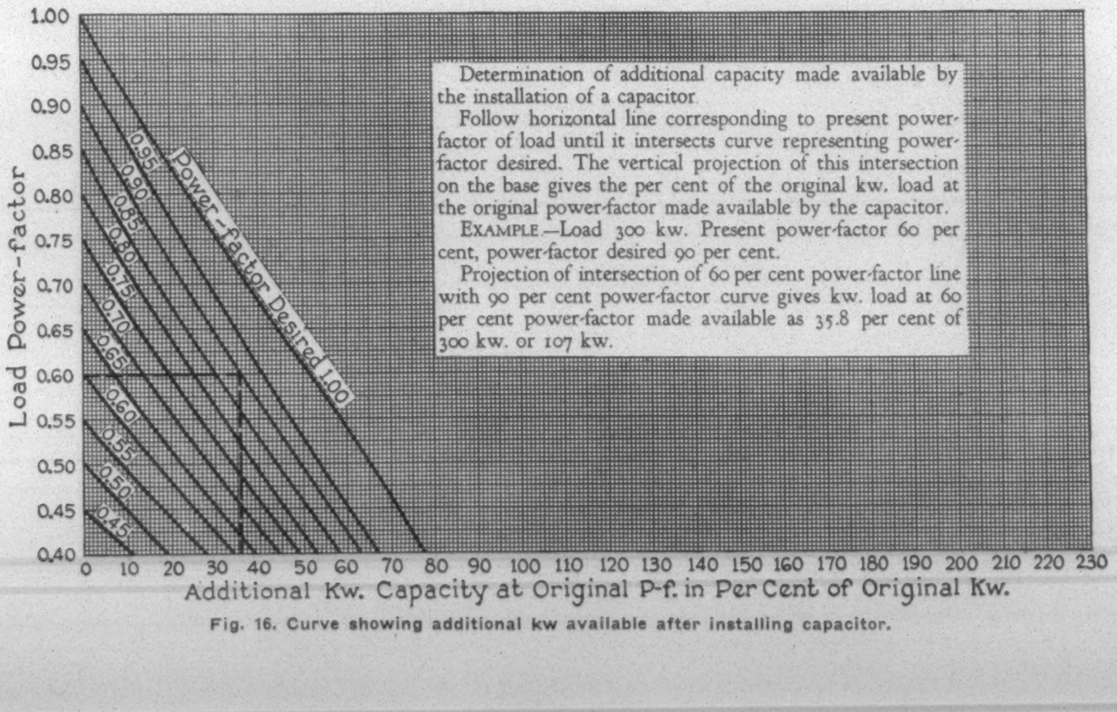
The difference between the two lagging components (400—145) is 255 kva and is the leading kva that will be necessary to raise the power-factor to 9.90.

To simplify these calculations, factors by which the kw load can be multiplied to give the size of capacitor necessary can be taken directly from the table on page 13, or from the curves in Fig. 21.

(C) On the Primary Feeder

The additional load that can be carried by the distribution system after the installation of a capacitor can be determined directly from the curves in Fig. 16. Assume the same conditions as above. Following the horizontal line corresponding to 0.60 power-factor until it intersects the curve representing the power-factor desired (0.90) and projecting this intersection on the base, it will be found that 35.8% of the original 300-kw load, or 107 kw, at 0.60 power-factor is made available without increasing the total apparent load.

The resulting power-factor can be similarly determined from curves in Fig. 17 and will be found to be 81.5%.



Determination of additional capacity made available by the installation of a capacitor.

Follow horizontal line corresponding to present power-factor of load until it intersects curve representing power-factor desired. The vertical projection of this intersection on the base gives the per cent of the original kw. load at the original power-factor made available by the capacitor.

EXAMPLE.—Load 300 kw. Present power-factor 60 per cent, power-factor desired 90 per cent.

Projection of intersection of 60 per cent power-factor line with 90 per cent power-factor curve gives kw. load at 60 per cent power-factor made available as 35.8 per cent of 300 kw. or 107 kw.

Fig. 16. Curve showing additional kw available after installing capacitor.

Staple Rayon Spinning

(*Continued from Page 8*)

urally, in the lower brackets. A brief table might serve to illustrate:

Staple Length	Denier	Yarn No.	Twist Multiplier	Break Factor
1½" Viscose	1.5	30	2.75	2050
1½" Acetate	3.0	18	3.40	1200
1⅞" Viscose	1.25	75	2.25	2400
2" Viscose	1.5	40	2.35	2300

Most mills will run higher twists than those indicated above. This is done to produced a harder yarn and avoid a sleazy finished fabric.

Spooling, warping and weaving require that yarn be not too weak. Rayon and cut worsted top blend yarns, possessing a skein break factor (cotton system base) of a thousand, may be processed without too much trouble. A higher factor would be better. The cotton minimum for warp is approximately sixteen hundred. The proper sizing increases these values, and since twist influences the penetration of the size, it is evident that breaking strength at the spinning frame is not in itself the final measure of quality.

The matter of the effect of staple length is apparently still unsettled. Many spinners would prefer to run the longer lengths:—up to three or four inches. These yarns might possibly compete with the worsteds. From the standpoint of yarn strength, it is very doubtful if any increase could be obtained by using fiber much longer than two and a half or three inches, and unless the twist is adjusted to the fiber length; that is, reduced as the fiber length is increased, no great benefit will be derived. As an illustration of this, two hard twist yarns spun with the same twist multiple, one from one and a half inch staple and the other from two inch stock, had approximately the same break factors. In order to obtain the full benefit of the increased staple length, the twist factor should have been reduced. If this had been done, the hand or character of the fabric would have been altered. Since this wasn't permissible, there was no advantage in using the longer staple.

Other Synthetic Fibers

Any fiber that can be produced commercially can undoubtedly be spun:—provided of course that it has two ends. As an example, one of the casein wool substitutes, cut to a length of an inch and a half, has been spun into a twenty (cotton count) of rather fair appearance. But, the skein strength was only 29 pounds, therefore the break factor (product of yarn count and skein break in pounds) was less than six hundred. As a commercial yarn this certainly wouldn't qualify for weaving purposes although

(*Continued on Page 38*)

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Cotton Goods Markets

New York.—With cloth markets rather listless for the past few days, and buyers apparently marking time to see what is going to happen in the raw cotton market following slumps lately, one of the most significant happenings in the market was the favorable impressions reported from a talk by Wm. P. Jacobs, director of the Print Cloth Group, in New York on March 26th.

Most were inclined to agree with his repeated assertion that the entire market has been placing too much emphasis on the stock position of mills and not enough on the accumulation or lack of accumulations in distributive channels. The talk was regarded on all sides as a reflection of the views held by the rank and file of Southern cloth producers with whom Mr. Jacobs has been closely associated for the last decade. His defense of the price reporting system won considerable response from the many merchants who regard this method of collecting and distributing vital information as one of the greatest contributions to market stability devised in recent years. Mill men and sellers were also impressed by Mr. Jacobs' argument concerning the necessity for complete co-operation all along the line in order to obtain statistics showing the movement of goods from mills to consumer. All in all, it was one of the most thought-provoking addresses that Worth street has heard in recent years and is likely to lead to demands that there be more plain talk concerning problems that have been confronting the market for years.

In his address Mr. Jacobs said: "Our problem lies not in the fact that our stocks are so heavy that they weaken the market for textiles, for actually in this quiet market period our stocks are negligible. Our problem lies more largely in the fact that we are not doing a long-range merchandising job. We are directly concerned with the daily function of business rather than a seasonal one, when as a matter of fact the business is affected by conditions which extend for seasons and perhaps for years."

Also, "Too frequently we have concluded that when mills have heavy stocks that they are in a precarious position. As a matter of fact that condition is one which may immediately precede a strong buying move, for when mill stocks are high usually the buyers need goods, and vice-versa."

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Cotton Yarn Markets

Philadelphia.—March has seen the production and shipments of combed peeler yarns on about the same scale as prevailed during the months of January and February this year. New buying has not increased to an appreciable degree, inquiries from consumers of this type of sale yarn is sufficient to indicate that there is the possibility that another of the periodic buying spurts of combed yarn may not be too far distant.

Shipments of single and ply combed, combined, average about 2 million pounds per week since January 1st.

This confirms distributors' claims that among their combined yarn clients there have been comparatively few attempts to postpone acceptance of yarn on their contracts. Average weekly production closely parallels billings, which confirms the assertion of spinners' agents that the yarn mills have piled up no unsold stocks.

Taking into consideration all types of yarn, carded and combed, there is good authority for the statement that probably the total unsold stocks among spinners amount to not more than a full week's supply at the present rate of operations.

Supporting their contention that yarn prices in general have about reached their break-even level of costs, spinners point out that for suitable cotton to spin an acceptable grade of carded yarn, basis of 10s/1, spinners must pay 11¾ to 12 cents a pound, the outlook being that they will have to pay more before new-crop cotton becomes available. They also emphasize that there is a definite "floor" under wages, making labor costs inflexible, and at the same time their expenses for packaging, including boxes, paper, etc., are high and unyielding.

From the producers' standpoint, yarn rates have already declined to the level where they cannot grant new concessions without entailing direct financial losses. It is added that, therefore, comparison of present yarn values with those of a year ago or any previous time cannot accurately be arrived at simply by comparing present cotton cost with that of a former period.

Again, recent buying of carded yarns, which has shown improvement, has also disclosed that about 90% of the entire quantity purchased is wanted for prompt or nearby use, demonstrating that a great many sale yarn users have permitted to run down seriously before acting to replace the yarn they have been using.

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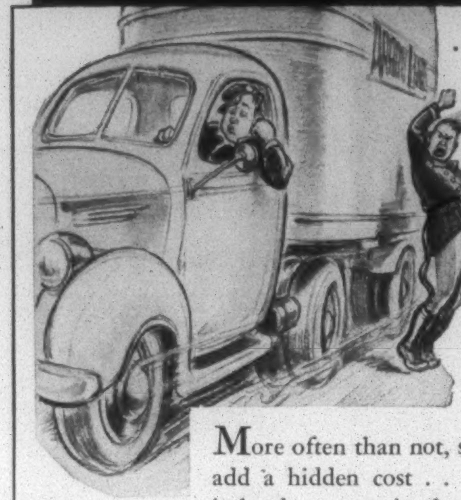

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Staple Rayon Spinning

(*Continued from Page 35*)

it might possibly be used for knitting. Wherever fiber of this type is used today, it is generally in combination with wool in percentages less than 50. All of the wool substitutes that fall into this general class have a long way to come before they can be considered satisfactory. Possibly the best wool substitutes at present are the dull crimped acetates of about three denier. These, when used in blends, give the yarn that woolly feel and life, so characteristic of wool yarns. One will find in the market today excellent fabrics in ladies' dress goods, men's summer suitings, and others; even blankets that possess a hand and warmth that leaves nothing to be desired.

The type of fabric to be produced determines the character of the yarn to be spun. Is it to be soft and smooth or hard and wiry? Or does one want a rough crepe effect? Naturally no one yarn will fit into all of these and produce the extreme range of fabric characteristics. The success or failure of a created fabric is determined to a large extent by the mix laid down on the opener room floor. Of course, yarn twist and weave and finish are likewise important factors but often these cannot overcome the handicap of improperly chosen stock.

The new resin products used as finishes for rayon staple fabrics and also as yarns, open an entirely new field. While such fibers as Nylon and Vinyon are not obtainable commercially at present as staple fiber, they should offer some rather interesting applications at some future time.

What the future holds for staple fiber is really beyond prediction. Surely three years ago none would have been sufficiently enthusiastic to forecast the progress that has actually taken place since then. Many different types of fibers are possible, both of organic and inorganic origin but they must possess certain physical and chemical properties to be of commercial value. Most of these can be altered at will; others still offer fields for study. As an example, it has been shown that the molecular order or placement at the time of fiber formation determines, to a large degree, the relative strength of both dry and wet filaments. The fibers should be flexible and fine although extreme fineness complicates the manufacturing processes somewhat.

The world production of rayon staple fiber has now reached a volume approximately equal to that of continuous filament. While its use in this country is not as extensive as it is abroad, it is still of great importance. With any further increases in the price of natural fibers there should be a corresponding increase in the use of the synthetics. In this country, rayon staple fiber must compete with all other fibers on its own merit; no governmental decree has extended its use and none is necessary. That staple fiber "has what it takes" can hardly be questioned. Intelligent use is all that is necessary.

Presented at the Sixtieth Annual Meeting of the American Society of Mechanical Engineers.

Some Causes for Poor Spinning Quality of 1937 Cotton Crop

(*Continued from Page 5*)

Baton Rouge, La., and Stoneville, Miss., was the inferiority of yarn strength very noticeable. The most outstanding disparity of all occurred at Baton Rouge, La., where the yarn strength of the 1937 samples was found to be 45% weaker than in 1936, and the cord strength, 18.5% weaker. On the other hand, six of the stations—Jackson, and Knoxville, Tenn., Statesville, N. C., Prattville, Ala., Marianna, Ark., upland, and Lubbock, Tex.—gave approximately the same yarn strength for both years, that at Prattville, Ala., being slightly higher in 1937 than in 1936. Moreover, at two of the stations where the test was made—Knoxville, Tenn., and the upland station of Marianna, Ark., the appearance grades of the yarn were noticeably better in 1937 than in 1936. At Baton Rouge, however, the 22's yarn had a much lower appearance grade than in 1936.

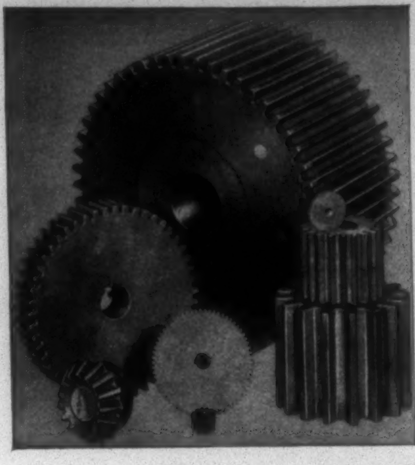
Yarn Strength Data "Adjusted"

In order to reveal more clearly the effects of the measured properties of the fibers and of the general character of the cotton on yarn strength, the yarn strength data have been "adjusted" for comparison to what they would have been, if all samples had had the same average fiber length and all other properties had been the same as before. With the effects of varying fiber length removed, the yarn results in relation to location remain generally the same but assume different proportions in some particulars; for example, the same five stations mentioned previously continue to show greatly reduced yarn strength for the 1937 samples as compared with that for 1936. Two additional stations, namely, Knoxville, Tenn., and Lubbock, Tex., now show appreciably lower strengths for 1937. The Marianna upland station now shows only slightly reduced yarn strength for 1937. And two of the stations—Statesville, N. C., and Prattville, Ala.—show a slight increase in yarn strength for the 1936 samples over that for the 1937 samples.

Causes of 1937 Strength Loss Differ

The causes for the greatly reduced yarn strength in 1937, as compared with that in 1936, appear to differ at the different stations. At Baton Rouge, La., the extreme inferiority of the cotton seems to be due to fiber deterioration, probably caused principally by micro-organisms. In addition to having a somewhat poorer alignment of the cellulose with the fiber axis, the 1937 cotton grown at Baton Rouge, La., had a much higher variability of fiber length than that of the 1936 crop, thereby indicating weaker fibers which broke more during ginning. This is confirmed by the Chandler bundle strength of the 1937 samples at this station, which was considerably lower than that of the 1936 series of samples; and the quality of the cellulose was much inferior as indicated by the fluidity of the cuprammonium solutions, the alkali solubility, and the copper number. At Florence, S. C., the 1937 samples gave similar but much less pronounced evidences of deterioration by micro-organisms. The grade of the cotton

(*Continued on Page 42*)



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Some Causes for Poor Spinning Quality of 1937 Cotton Crop

(Continued from Page 39)

lint particularly, was nearly two steps lower at this station in 1937 than in 1936. The somewhat high values for cuprammonium fluidity and copper number suggest a poor quality of cellulose, and the low Chandler bundle strength and high length variability indicate poor fiber quality.

At Stoneville, Miss., and the delta station of Marianna, Ark., poor alignment of the cellulose with the fiber axis and coarseness of fiber seems to be the dominant factors associated with the inferior yarn and cord quality of the 1937 samples. The poor cellulose alignment is clearly reflected in reduced bundle strength of the fiber.

On the other hand, at Fort Valley, Ga., the low strength of the 1937 fiber, as indicated by the Chandler bundle test, apparently is not associated with an inferior cellulose angle or deteriorated cellulose. At this station, however, the percentage of manufacturing waste for the 1937 samples was higher and the fibers were coarser and had a larger lumen area than was the case with the 1936 series of samples. Otherwise, there seems to be little explanation at this time for the inferiority of the yarn at the Georgia station in 1937.

Great Variability of Cotton

Finally, these comparisons reveal the relatively great variability that occurs in cotton quality, not only from season to season, but from place to place within a given season. More important, perhaps, they show how inaccurate and unfair it is to attempt to speak of cotton quality from the standpoint of the crop as a whole, or even of any major section of it, on a basis of data from only a comparatively few tests and locations of growth. It is evident that a careful statistical study of the influence of climatic, soil and other conditions on fiber and yarn properties for the entire Regional Variety Series is needed and such a study will be undertaken as soon as data from the other varieties, locations and years have been assembled.

Cronkhite Speaks At N. C. State College

W. W. Cronkhite, manager sales, Industrial Manufacturers' Section of General Electric Co., Schenectady, N. Y., addressed the Tompkins Textile Society of North Carolina State College Textile School on March 5th, using as his subject "Electricity at Work in the Textile Industry." Mr. Cronkhite was accompanied to State College by E. L. Mansfield, applications engineer of General Electric Co., who specializes in the application of electrical apparatus to textile equipment.

Following the interesting address of Mr. Cronkhite, Mr. Mansfield showed a number of slides illustrating how electricity had been applied to various textile machines. At the conclusion of their addresses they presented to the Textile School a booklet prepared especially for this occasion entitled "Electricity at Work in the Textile Industry."

Messrs. Cronkhite and Mansfied were accompanied to Raeligh by Robert Horning of the Charlotte office of General Electric Co.

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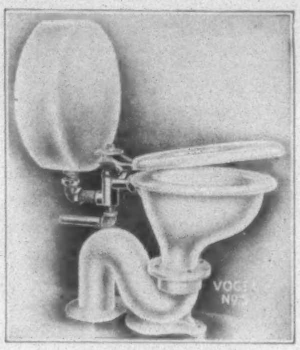

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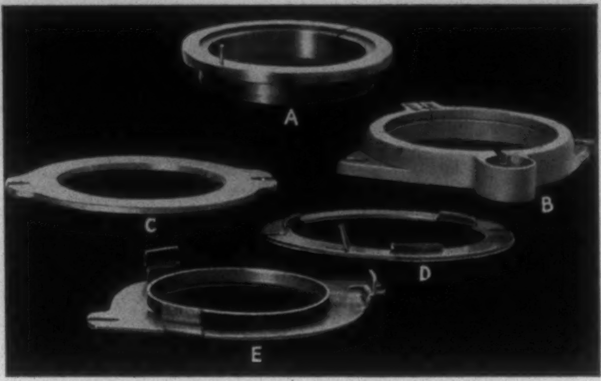

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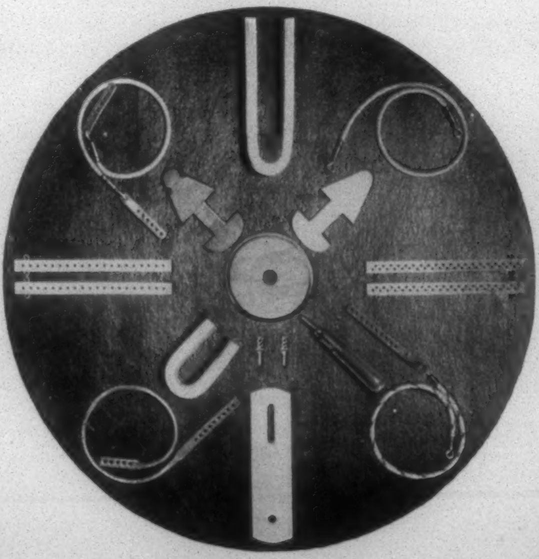

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